INTERNATIONAL LABOUR OFFICE

# INTERNATIONAL LABOUR REVIEW

VOL. XXXVII, No. 2. FEBRUARY 1938

GENEVA
1938

# CONTENTS


Page

**Special Articles**

Vocational Training : Problems and Trends 139

Some Economic Aspects of Rearmament : I, by A. S. J. BASTER 168

Home Work in France : Its Origin, Evolution, and Future, by Valentine PAULIN 192

**Reports and Enquiries**

Rationalisation and the Decasualisation of Dock Labour in the Port of Rotterdam, by C. MÖRZER BRUYNS 226

Factory Inspection in South Africa, 1932-1936 280

**Statistics**

Employment and Unemployment. 241

Recent Family Budget Enquiries : The South African Family Budget Enquiry of 1936 250

**Bibliography**

Book Notes 262


*The International Labour Office is not responsible for opinions expressed in signed articles.*


The contents of the *International Labour Review* are indexed in the *Industrial Arts Index* and the *International Index to Periodicals*, which may be found in many libraries in the United States and other countries.

INTERNATIONAL LABOUR REVIEW

VOL. XXXVII, No. 2. FEBRUARY 1938

# Vocational Training :
## Problems and Trends

*In 1935, as a result of a discussion on unemployment among young persons, which drew attention to the need for a reorganisation of vocational training in consequence of the depression, the International Labour Conference passed a resolution requesting the Governing Body of the International Labour Office "to consider urgently the desirability of placing on the agenda of an early Session of the Conference the question of vocational guidance, apprenticeship and technical education of young workers". In accordance with this resolution, the Governing Body decided at its 78th Session, in February 1937, to place the question of technical and vocational training and apprenticeship on the agenda of the 1938 Session of the Conference.*

*In preparation for the discussion which will consequently take place at the next Session of the Conference, and in accordance with the usual practice, the International Labour Office has drawn up a general report* [1] *on the subject which describes the vocational training institutions existing in different countries. This survey, though it does not claim to be complete, serves to bring out the main features of the present situation, the most striking being perhaps its complexity, and shows clearly that there is a general tendency to consider the whole problem afresh with a view to reorganising vocational training on lines more suited to present needs. In these circumstances, it was found desirable to supplement the factual information by a general introduction in which the Office endeavours to synthesize the problems raised and the tendencies observed, it being felt that a general review of this nature will be more useful than the mere description of facts in helping the Conference to formulate the general principles to be recommended for application by States Members of the International Labour Organisation.*

*This general introduction is reproduced below, in the belief that the importance and current interest of the questions discussed will appeal to readers of the* Review.

[1] INTERNATIONAL LABOUR OFFICE : *Technical and Vocational Training and Apprenticeship.* International Labour Conference. 24th Session, Geneva, 1938. First Item on the Agenda.

## The Historical Background

### *Vocational Training before the War*

THE forms of vocational training have varied greatly in the course of history and still vary at the present time according to the stage of development of industry and the nature of the undertaking or work for which training is given. Even in highly-industrialised countries in our own day there are numerous small family undertakings in which young persons learn their father's trade by working with him under the guidance of his experience. As soon as industry gets beyond the stage of family organisation, however, other methods of vocational training appear.

The part played by apprenticeship in the crafts from the Middle Ages onward in Europe is well known. Apprenticeship was regarded as an integral part of the guild system, and for centuries it was practically the only way of guaranteeing the necessary supply of workers for different trades and occupations. The very detailed regulations governing apprenticeship continued in force for a long time as customary rules, without any necessity for legislation. When the guild system began to show signs of weakening, the apprenticeship system which it had built up was found so indispensable for economic life that the State intervened to guarantee its continuance. The Statute of Apprentices of 1563, for example, which was the first charter of apprenticeship in England, made apprenticeship compulsory for seven years for any occupation or trade. In France, when the trade guilds were reconstituted after the disorganisation caused by the Hundred Years' War, they asked for and easily obtained royal authority to confirm and extend their privileges in view of the growing competition of independent industries.

In all the regulations on the subject the interests and requirements of the occupation took precedence over every other consideration. The purpose was to safeguard occupational skill by guaranteeing the rights and interests of those who were its depositories. The fact that apprenticeship was compulsory and spread over a long period and was a monopoly of the guild was felt by the journeymen to be the surest guarantee of their rights and prerogatives.

But State intervention was unable to protect the system of apprenticeship in the crafts from the causes of its impending decline. The evolution of methods of work, technical progress,

and the introduction of machinery, meant the creation, outside the closed guild with its strict rules, of industries of a new type requiring very different kinds of labour from the former crafts. The proportion of unskilled and semi-skilled workers increased, and even skilled workers in the new undertakings did not require such a long period of training.

This movement of events, which accompanied and promoted the general trend of thought in favour of occupational liberty, led to the abolition of the guild system at the end of the eighteenth century and the beginning of the nineteenth. Apprenticeship, which had been compulsory, became purely optional; it was to some extent adapted to the new conditions of industry; it was shortened, but even though there was no legislation on the subject it retained many of its traditional characteristics in the crafts and in allied trades in industry.

Since then, the shortage of skilled workers and the decline of apprenticeship have been the subjects of constant complaints. An industrial undertaking did not have the same traditions, the same type of worker to give instruction, or the same favourable atmosphere for the training of workers as the small craftsman's workshop.

When large-scale industry began to develop rapidly in the course of the nineteenth century, it was able to find much of the specialised labour it required in the craft industries, which were declining rapidly since the guilds had been abolished. But this demand for the labour they had trained placed a heavy burden of apprenticeship on handicrafts, and this source of skilled labour for large undertakings threatened to dry up. Moreover, the rapid progress made in technique and in the use of machinery, the creation of new industries, and the parallel growth of commerce and transport, produced a demand for new kinds of workers for whom the older methods of vocational training were unsuitable. Towards the middle of the nineteenth century the situation that had arisen attracted the attention of the public authorities, who were anxious to retain some system of vocational training both in order to facilitate the development of large-scale industry and also to safeguard handicrafts and the middle-class elements dependent on them. As to the means that should be adopted, two distinct trends of thought can be distinguished in the course of the second half of the nineteenth century, and the discussion between the partisans of those two views still continues. In brief, it is a question of the relative advantages of apprenticeship in the

workshop and training in a vocational school. One example will suffice to illustrate the difference of opinion.

In France a committee was set up in 1863 to undertake a thorough examination of the best means of apprenticeship for a trade. The arguments then advanced in support of the two points of view are interesting, because they are still re-echoed in modern discussions on the subject. In support of its preference for the vocational school, the majority of the committee pointed to the following advantages :

(1) Young persons entering a manual occupation will benefit by attending a school, where they will be under the favourable influence of educated and cultured teachers. (2) The spare time which pupils in schools have can be spent in their own families, which is impossible in the case of an apprentice who is placed with an employer ; in this way the vocational school will help to protect family life. (3) A balance can be obtained between manual work and intellectual work by means of a school curriculum, and this will be excellent for the pupils. (4) The theoretical and practical training given in the vocational school by qualified teachers can be adapted more easily to the individual ability of each pupil ; it is true that the time spent in practical work in a vocational school will be relatively small, but in view of the conditions the pupils will be able to acquire the necessary technical and manual skill more quickly than in an ordinary workshop. (5) No apprenticeship workshop in the crafts or in industry could provide the apprentice with the necessary artistic training for purposes of draughtsmanship and modelling to the same extent as a school.

The arguments advanced by the supporters of apprenticeship in a workshop may be summed up as follows :

(1) Training for a trade in a school cannot reproduce the conditions of actual production, in which the division of labour is constantly being carried to greater lengths. (2) The vocational school cannot train the pupil in the rational and economical use of materials, which is essential for the economic success of the undertaking in which he will subsequently work. (3) The vocational school cannot inculcate the habit of rapid work required in a workshop, and there is therefore a risk that individual output will be low and that the worker's wages will suffer in consequence. (4) The vocational school can devote only a few hours daily to practical work, which is carried out under special conditions that have little similarity

to those which the pupil will find in his future occupation. (5) Conditions of life in a school and in a workshop are so different, if not diametrically opposed to each other, that the pupils from vocational schools will find themselves lost and disillusioned when they first come into contact with practical life. (6) As vocational or technical schools are costly institutions, it would be impossible to have a sufficient number of them at a sufficiently low price to enable all young persons to benefit by the instruction they give. (7) It is difficult to administer and supervise such institutions ; for many occupations the workshops must be very large (as for carpentry), or have very highly-developed equipment (as for the manufacture of pianos), while yet others cannot really be organised except on an industrial basis (as for the training of upholsterers, pastry-cooks, etc.).

After weighing all the pros and cons, the French committee decided in favour of vocational schools. In actual practice, however, the question was not settled in such a definite manner in any country. In several countries, of which England may be taken as the most typical, the workshop remained and still remains the centre of gravity of the system of vocational training. Custom has sufficed, without legislative measures, to ensure the development of a system of apprenticeship adapted to cicumstances by means of collective agreements, agreements between industrial organisations and the local authorities, trade union rules, etc. In other cases the State has intervened to lay down rules for apprenticeship and consolidate the system of organisation. The authorities have then taken steps to fix the number of apprentices in proportion to adult workers in each trade or industry, to regulate the methods for concluding apprenticeship contracts and the terms of the contracts, to regulate the wages paid to apprentices, the duration of apprenticeship, its supervision by competent inspectors, and the conditions for obtaining the title of journeyman or master craftsman.

This interest taken in apprenticeship has not interfered with the development of vocational and technical schools. Between 1850 and 1914 numerous regulations were promulgated in important industrial countries, such as France and Germany, extending the powers of the State with regard to vocational training and securing organisation on a more systematic basis. In France an Act of 1880 set up manual apprenticeship schools under the joint supervision of the Ministry of Education and

the Ministry of Commerce; under the Finance Act of 1892, practical commercial and industrial schools were established under the Ministry of Commerce and Industry alone. In Germany the Industrial Code of 1869 provided for the establishment by the local authorities of compulsory supplementary education for apprentices. In 1900 an Order was issued making supplementary training compulsory for girl apprentices in commercial activities, and in 1911 this obligation was extended to apprentices in handicrafts. In 1907 Prussia adopted rules for the training of mistresses for vocational schools, and rules for the training of masters were introduced in 1913. In other countries, such as Belgium, the Netherlands, the Scandinavian countries, and Switzerland, the first steps were taken by private initiative, but in addition public institutions have gradually been set up, of which one of the most remarkable is the Labour University in Charleroi.

In the period preceding the war vocational training was thus receiving careful consideration both from the authorities and from private interests, but it would be very difficult to draw an exact picture of the situation at that time from which any general trends could be deduced. The movement was extremely complex, because it was largely decentralised and carried on by so many different bodies. Most of the institutions responsible for providing vocational training were set up to meet the special needs of an undertaking or group of undertakings, an industry, an occupation or group of occupations, a given locality, or perhaps an industrial area. The nature of each institution was determined by its origin, and there was as a rule no general programme co-ordinating the different institutions.

The public authorities intervened to encourage, facilitate, or supplement, private initiative rather than to co-ordinate the work done.

The first steps taken on a national scale in the different countries, however, revealed a considerable change in the general attitude to vocational training. Under the old guild system, apprenticeship was intended almost solely to meet the needs of the occupation and further the interests of those engaged in it. In time, however, it had been realised that vocational training had a genuine economic and social value and should be organised in the light of the general economic and social requirements of the country. This conception can clearly be seen in the collaboration gradually established between economic interests and the public authorities.

At the same time, vocational training gradually came to be linked up with general education. The ideas current on this point under the influence of the new humanism of the early nineteenth century are quite clearly shown by the following passage from the preamble to the Prussian Education Act of 1819: "Public general schools shall be deemed to mean all schools intended for the general education *(Allgemeinbildung)* of man and not for his direct training in a particular occupation."[1] The educational value of the institutions for vocational training, which were already quite numerous in Germany, is thus implicitly denied. A century later opinions had changed. The educational value of a properly conceived system of vocational training was better realised, and likewise the value of improved general education for vocational training. A great impetus was given to this movement by such specialists and pedagogues as Kerschensteiner in Germany, Grundtvig in Denmark, and Labbé in France.

### *Vocational Training since the War*

In the field of vocational training as in so many others, the war meant a stoppage in the development of new institutions. The movement of ideas, however, continued uninterruptedly. The concentration of every effort on military requirements and the necessity for achieving the maximum output from war industries brought into the foreground the problems of the rational employment of labour and in particular the questions of vocational training and the rehabilitation of disabled men. It is therefore not surprising that when hostilities ceased a new period of legislative and organising activity opened and a large number of new institutions were set up as soon as the financial situation permitted.

In France the Astier Act was passed immediately after the war (1919) and an Act imposing an apprenticeship tax in 1925. In Germany, section 145 of the Weimar Constitution of 1919 made attendance at supplementary vocational courses compulsory up to the age of eighteen years. Between 1920 and 1930 Italy passed several laws on this subject, and the same is true of the new countries that were founded after the war.

During the same period the existing institutions were reorganised and the curricula revised and adapted to new technical requirements. In many countries provision was made

[1] Quoted by SÜDHOF: *Das Berufs- und Fachschulwesen Deutschlands*, 1936.

for vocational guidance, so that vocational training could be based on concrete data and thus be certain of giving the most successful results from the point of view both of the individual and of the economic needs of the country.

The movement, however, was not free from faults. During the years of prosperity its development was often feverish and unsystematic. Large industrial firms wishing to increase their output and their productive capacity sometimes invested considerable sums in the foundation of vocational schools without considering their own needs in relation to the general economic needs of the country. The organisation and curricula of these schools were determined by the immediate requirements of the industry concerned. The training given to the workers was limited and determined entirely by the nature of the work for which they were required in the undertaking. In contrast with the efforts made in other quarters to secure co-ordination, this meant a fresh wave of " particularism " in vocational training institutions.

Moreover, the tremendous development of machinery, rationalisation, mass production, and work with conveyors, had given rise to the idea that the day of the skilled worker was over. So much attention was devoted to the training of technicians and the rapid preparation of workers for production that apprenticeship in the true sense received little notice and tended to disappear.

The economic depression soon revealed the inadequacy of this system. Financial restrictions not only prevented the creation of new institutions ; they also compelled many existing institutions to restrict or even suspend their activities. The fact that no new workers were being engaged deprived many of the schools, set up by employers to train young people for their own undertakings, of any real purpose. Widespread unemployment did away with all vocational training contingent on the engagement of new staff. At the same time many workers who had received vocational training during the period of prosperity either lost their skill as a result of prolonged unemployment or found, when the recovery came, that technical progress or changes in the methods of production had made their special ability useless. The result was that long before unemployment had declined to any great extent there was in every country a shortage of skilled labour. This fact, combined with the anxiety caused by unemployment among young persons, made the problem of vocational training one of urgent importance.

Well before the end of the depression, therefore, proposals for reform were everywhere being made and in some cases put into practice.

Between 1930 and 1932 many countries, such as Canada, Denmark, Greece, Italy, Poland, and Switzerland, prepared new regulations concerning vocational training or revised the existing ones. In 1930 the International Labour Conference passed a resolution on the subject, and in 1935, after recommending a number of measures for developing vocational training as a means of preventing unemployment among young persons, the Conference adopted a special resolution pointing out that the problem was really a wider one, since it affected not only young unemployed persons but all young workers, and expressing the hope that the question would be placed on the agenda for consideration.

During recent years many occupational, educational and other associations have dealt with this problem nationally and internationally.[1] Particularly interesting work was done in this connection by the International Congresses on Technical Education (Paris, 1931 ; Brussels, 1932 ; Barcelona, 1934 ; Rome, 1936). At the Paris Congress in 1931 the decision was taken to set up a permanent international body, the International Bureau of Technical Education (I.B.T.E.), to be responsible for the preparatory work for congresses in subsequent years. This institution, which was set up in the middle of the depression, has throughout collaborated closely with the International Labour Office, to which it is attached by certain clauses of its statutes ; it has done much to help on the study and comparison of different trends of thought in connection with vocational training. Its resolutions and those of other conferences and meetings dealing with the question reveal a general desire to consider the problem on a wider basis and from new angles and to seek a solution taking account not only of technical requirements but also of economic, social, educational and general human requirements. In this way many changes and new factors have been introduced in this field in the last few years.

## Necessity and Purpose of Vocational Training

The primary aim of any scheme of vocational education is clearly to ensure an adequate but not excessive supply of workers

[1] An account of these developments is given every year in the I.L.O. *Year-Book* ; a general reference to that publication must suffice here.

of each grade and type required by the economic system of the nation, who will be able collectively to perform efficiently the duties allotted to them in each undertaking. The organisation of vocational training must, therefore, be based on an analysis of the labour requirements of the economic system in question.

From this point of view it will be found that in modern times, and especially since the war, there has been a considerable change in the nature of the ability required for the exercise of different occupations. It is true that a distinction can still be made between the three main classes of workers employed in any industry or in any industrial or commercial undertaking: (1) the rank-and-file workers; (2) the supervising grade, which consists of foremen and similar workers whose duty it is to transmit to those below them the instructions of the higher officials and to see that the various operations are carried out skilfully and without waste of time, effort, or material; and (3) the directing and managing grade. But a modern undertaking requires of the members of each of these groups rather different qualifications from those formerly required.

Mention was made above of the influence exerted by the progress of machinery on the methods of vocational training during the nineteenth century. At no time have these changes been so rapid and so far-reaching as since the war. It was at first thought that the development of the use of machinery would gradually reduce the necessity for and the importance of vocational training. But the experience of recent years and the shortage of skilled workers that exists everywhere at the present time have shown that this prediction was mistaken. There is, indeed, an increase in the number of industries which do not demand any considerable manual skill of the workers employed, either because of the simplicity of the processes or because of the automatic or semi-automatic nature of the machinery or plant; examples of these are the chemical industry, flour milling, confectionery making, etc. But there are other industries, such as engineering, building, and mining, in which a large proportion of the workers must possess manual skill acquired by actual practice. Even in industries in which mechanisation seems at first sight to render unnecessary the employment of workers possessing a high degree of manual skill, there must be a staff of skilled mechanics for the upkeep and repair of the machinery or other plant. Moreover, there are still many handicraft industries based on a system of apprenticeship. Contrary to expectation, the importance of

these industries has not decreased in recent years, and it has even tended to increase as a result of the incentive given by competitive conditions to industries producing high-grade articles in the older industrial countries.

There is, therefore, no immediate risk of the disappearance of the skilled worker in the older sense of the term. Consequently, the problem of apprenticeship proper has been receiving the attention of the authorities, the employers, and the workers, in many countries. There has been a revival of interest in such questions as the conditions for admission to apprenticeship, the proportion of apprentices that an employer must or may engage, the occupational and educational qualifications required of those who train apprentices, the conditions of employment and wages of apprentices, the length of the period of apprenticeship, the composition and powers of the bodies responsible for supervision, supplementary education for apprentices, and the inter-trade or international exchange of apprentices or probationers wishing to extend their occupational experience.

In some countries special attention has been paid to the welfare of apprentices, especially when they are employed away from home. Hostels or living centres have been set up so that apprentices may be employed in occupations developed in areas where there is a shortage of juvenile labour.

The fact that so much encouragement is given to apprenticeship shows that the demand for skilled labour is by no means dwindling at the present time. That impression arose because changes had occurred in the special qualifications required and these changes deprived many older skilled workers of their employment. If such consequences are to be avoided in future, what is required is not the scrapping of the older methods of vocational training but their adaptation.

Mechanisation has not done away with the need for craftsmen, but it has produced new types of employment in which the worker, though not requiring the manual skill that can only be acquired by a long course of apprenticeship, nevertheless must have proper vocational training. The appearance of these new jobs has made a considerable change in the structure of the employment market. The former classification of workers into skilled, semi-skilled, and unskilled, is no longer an exact reflection of the facts. It is true that only a relatively short period of initiation is required to train a worker to attend to the increasingly improved and complex machinery that is being used, but those who are in charge of such machines must

possess other qualities, such as rapidity of movement, accuracy, the power of constant attention, and a sense of responsibility based on the knowledge that their jobs are indispensable for the whole process of manufacture.

As Henri de Man[1] has said :

> Modern technical methods require of the worker a lively intelligence and sufficient knowledge to understand the increasingly complex and fluctuating processes of manufacture, rather than a long and patient training in muscular movements and manual dexterity .... As technical progress continues the need for a higher standard of education among workers becomes greater.

A similar view is taken by A. Abbott, formerly Chief Inspector of Technical Schools in Great Britain, when he says : [2]

> The modern type of workman is not necessarily less skilful than his predecessor but his skill is of a different kind. What he must possess is not special skill enabling him to undertake one particular class of work but general skill and that flexibility which is gained by the systematic training of hand and eye and mind through the manipulation of various kinds of material with simple tools.

Side by side with the skilled workers trained by the traditional methods of apprenticeship, therefore, there have sprung up new classes of workers whose extremely varied specialisation demands training of a new kind. The methods of training required will be discussed later in the course of this survey, but it should be pointed out here that the fundamental characteristic is a development of theoretical knowledge side by side with practical training. Experts agree that in so far as mechanisation has reduced the need for manual skill it has at the same time made it more necessary for the worker to have theoretical knowledge which will develop his general intelligence and give him a fuller understanding of his job. Education of this kind has proved useful even for the satisfactory performance of manual operations in modern industry. In certain schools in the province of Hainaut in Belgium it was found that the pupils in the so-called " industrial " sections, who are the more gifted pupils as regards theoretical study and who spend less time in the workshop than those of the " occupational " sections, nevertheless show greater manual skill at the end of their course of study. [3]

---

[1] *L'exécution du plan de travail.* Antwerp, 1935.

[2] A. ABBOTT : " Recent Trends in Education for Industry and Commerce in Great Britain ", in *International Labour Review*, Vol. XXXII, No. 2, August 1935.

[3] Report of the Industrial Commitee for Vocational and Technical Training, published in *Bulletin du Comité central industriel de Belgique*, No. 47, Nov. 1936, pp. 1571 and following.

It is therefore generally admitted to-day that the development of modern industry tends not to reduce the need for vocational training but rather to extend it, and there is consequently a growing demand for compulsory apprenticeship. This idea is expressed, for example, in a Bill recently submitted by the Director of Technical Training in France to the apprenticeship committee of the Higher Council for Technical Education. Part II, section 11, of the Bill provides that " from fourteen years of age until the completion of the seventeenth year, any child employed by or admitted into any public or private industrial or commercial establishment shall be considered to be an apprentice, with the exception of those children who have been declared unfitted for any form of apprenticeship by the vocational guidance service." One result of this provision would be to oblige all the children in question to undergo a course of supplementary vocational training.

In 1935, the International Labour Conference, dealing with the question of unemployment among young persons, laid down in its Recommendation on this subject that " Juveniles who are no longer in full-time attendance at school should, until they reach the age of eighteen, be required to attend continuation courses providing a combination of general and vocational education." In December 1936, the International Congress on Technical Education held at Rome recommended " that children of fifteen to eighteen years should be compelled, in accordance with the means of each country, to undergo cultural and practical technical training in undertakings and vocational schools which would give them methodical and complete knowledge of a trade."

The changes made by the evolution of industry in the qualifications required of the rank-and-file workers have also influenced the training of the supervisory staff. In occupations where considerable manual skill is the most important factor the foreman must of course be able to perform the operations himself so as to show the worker the best way of doing the job. He cannot do that unless he has himself had long experience in manual work, either in the workshop or in a school. Under present conditions of industrial production, however, it is not sufficient for the foreman to have manual skill ; he must also have some understanding of the theoretical principles on which the organisation of work in the shop is based ; he must understand technical drawings and be able to make rapid freehand sketches to supplement his explanations ; he must

pp. 1571 and following.



also be able to make the ordinary calculations required of anyone in charge of a workshop.

Such knowledge will also be necessary for the supervisory staff in industries where no great degree of manual skill is required. In addition, foremen in undertakings of this kind must be able to learn rapidly the method of working and the best way of using new machinery and new processes such as are constantly being introduced as a result of the rapid march of technical progress. They must also be able to make a personal contribution to the working out of the changes which these new processes require in the organisation of the work.

These new duties naturally imply that foremen must possess additional qualifications and a new type of knowledge. In the United States, in particular, a special effort has been made to adapt methods of training to these requirements. In many factories there is a tendency to assign foremen's positions to engineers or other men of technical education, sometimes after a period of intensive training for supervisory responsibilities. The courses organised for this purpose are generally of three kinds: (1) courses of technical training in which the employer seeks to repair whatever shortcomings there are in the foreman's vocational education and to keep him abreast of current developments in the scientific and engineering aspects of the processes to which his work is related; (2) courses of management training, which cover a wide range of subjects and are concerned not so much with mechanical or scientific processes as with executive and administrative problems; (3) general cultural courses, covering a variety of subjects (including psychology, history, economics, and public speaking); these are included on the ground that anything which broadens the cultural background and experience of the student thereby increases his interest in the work, facilitates his adjustment to his social and industrial environment, and improves his general capacity for supervisory responsibility.[1]

What has just been said with regard to supervisory staff applies equally to managing staff. The great complexity of the functions in a modern undertaking, on the administration side as well as in production and sale, requires managers to have a very wide vision and an extensive knowledge of all questions affecting the development and future of the undertaking. These can be acquired only by a long period of general education,

[1] Cf. Edward S. COWDRICK: "Foremen Training in American Industry", in *International Labour Review*, Vol. XXVII, No. 2, Feb. 1933.

quite apart from the specialised technical knowledge that managers require for the performance of their duties.

An analysis of the effects of technical and economic developments in recent years on the qualifications required of all grades of staff shows that, while there has been a considerable change in the nature of these qualifications, there has been no reduction in their extent. This fact is sufficient to justify the tremendous interest shown in every country in the development of vocational training and its adaptation to the needs of the time.

## Present Aspects of the Problem

### *The Development of General Education*

The brief analysis given above of the qualifications required of workers in modern industry brought out the need for more extensive general education. It is therefore not surprising to find that one of the most frequent demands of those who study the problem of vocational training is that the school-leaving age should be raised. The widespread unemployment among young persons and the resulting stoppage of apprenticeship during the recent depression gave a considerable impetus to this movement by drawing attention to the fact that a longer period of school attendance could contribute to vocational training.

Since 1930 this reform has been advocated by the International Association for Social Progress, the International Association for the Promotion of Child Welfare, the International Federation of League of Nations Societies, the Christian Workers' Youth Movement, the International Socialist Youth Movement, the International Federation of Teachers' Associations, and many other bodies.[1] In 1935 the International Labour Conference, when dealing with unemployment among young persons, recommended that the school-leaving age and the minimum age for admission to employment should be 15 years. In June and October 1936 the Conference revised to this effect the three Conventions concerning the minimum age for admission to employment in industrial work, non-industrial work and maritime work.

The way now stands open for a raising of the school-leaving age. Important industrial countries, such as Great Britain and the United States, are moving in that direction. In Great

[1] A continuous study of the trend of ideas on this subject and on those discussed later will be found in greater detail in successive volumes of the I.L.O. *Year-Book*.

Britain the reform is due to take place in 1939. Bills for the same purpose are being considered in other countries, such as Belgium. It should further be noted that, irrespective of legislative measures, an increasing number of young persons, instead of entering employment at the minimum age, continue their studies until a later age. In England, for example, it was found that in 1935 the number of pupils attending secondary schools was fourteen times what it was at the beginning of the century. It is unnecessary to analyse further the trend of ideas and the actual progress made in this direction; the important fact which should be emphasised is that the raising of the school-leaving age would help to bring vocational training into closer relationship with general education. Indeed, this is one reason why the reform is advocated. There is quite a frequent demand that the requirements of vocational training should be taken into account in the curricula of the last years of school education. The International Congress on Technical Education, for example, in a resolution adopted at Rome in 1936, not only advocated the raising of the school-leaving age but also stipulated that the extra year should be used " for vocational guidance and pre-apprenticeship training". The action taken in many countries is based on the same desire for a certain vocational bias in the last years of school education, while at the same time not neglecting general education.

If the school-leaving age is raised, vocational training must make allowance for this fact and must modify its curricula in consequence. A young person who has received continuous general education up to the age of fourteen or fifteen years requires different methods of subsequent training from those applied in the past to children of eleven or twelve years. Moreover, the children who now come to the vocational school or workshop are not a homogeneous body who have all terminated their general education at about the same age. The age for beginning apprenticeship in the more advanced countries is tending to vary because, as has been mentioned, many young persons who intend to follow an extensive course of vocational training continue their general education beyond the compulsory school age. An enquiry made by the Board of Education in England showed that in 1934-35, among the pupils entering the larger technical schools, 54 per cent. had attended elementary schools only, and 36 per cent. secondary schools, while 5 per cent. had attended preparatory technical schools, and the

remainder miscellaneous schools. Such differences in the level of general education of candidates for vocational training obviously call for a revision of the structure of the system, which must be subdivided into grades according to the degree of preliminary training of the pupils.

As a result of all these influences, there is a tendency for general education and vocational training to be more closely linked up with each other. The organisation and curricula of each take into account those of the other. In vocational training, efforts are made to give a larger proportion of general education, which is felt to be an indispensable part of the training. Vocational training is gradually becoming an integral part of national systems of education, and its advocates demand that the subjects taught should be raised to the standard of " technical humanities ".

Similarly, the discussions that took place at the Sixth International Conference on Public Education, held in Geneva in July 1937, clearly showed that the authorities responsible for public education now take into account the requirements of vocational training when considering any reform in elementary or even secondary education. The Conference stressed the necessity for co-ordinating every form of education and training of young persons and emphasised that general education and vocational training could not be kept in water-tight compartments. One of the United States delegates at the Conference, Mr. Kelly, who is a member of the Youth Commission in his own country, summed up this view in the words : " School and labour cannot be separated any more."

### *Practical and Theoretical Training*

In the course of vocational training, the pupils must necessarily acquire certain theoretical knowledge as well as practical experience of their occupations. This principle is almost universally accepted at the present time. What has been said above with regard to the qualifications required of workers in modern industry, and what will be said later concerning the necessary mobility of labour, will suffice to explain why the proposals for reforming the organisation and curricula of vocational and technical training so often lay greater stress than in the past on theoretical courses. There is no need to discuss this question in greater detail here.

The increasing duality of the curricula raises a delicate problem, on the solution of which experts are far from being in agreement. Some, who are anxious to maintain a single system of training in which theory and practice will be co-ordinated, and who are convinced that the school has certain pedagogical advantages over the workshop, propose that the school should be the centre of the whole system of vocational training. Others, who are more anxious to maintain contact between the system of training and the practice of the pupils' occupations, and who fear that training given entirely in a school will leave the pupil at a loss when he has to adapt himself to the special rhythm and necessities of factory work, urge that wherever possible practical training should be given in the workshop, the school merely providing the necessary supplementary education.

This is really a slightly different form of the old conflict between workshop and vocational school, to which reference was made in the historical survey.

It seems unnecessary to discuss in detail here the arguments advanced by the advocates of these two views. As was pointed out, the question has never been settled in a radical manner in any country. In countries in which the school method is preferred, training is still given in the workshop for many occupations, while in England, which is the classic home of workshop training, full-time technical or vocational schools exist not only for commercial occupations but also for certain technical workers.

In any case it is now coming to be realised that there can be no academic solution of the problem. The fact that vocational training in the workshop has given results in England which justify the traditional predominance of this system does not mean that the system would have the same advantages elsewhere. An expert from that country, Mr. A. Abbott, when invited to study the question of vocational training in India and advise on its organisation, came to the conclusion that India was very far from being ripe for the adoption of the English method of technical education and training and that youths intending to be skilled craftsmen would best be taught in schools rather than in workshops. In his view, there was not yet in India the necessary tradition of good craftsmanship in the works themselves for them to be relied upon to shoulder an essential part of the burden of training.

It would therefore seem that no attempt should be made

to lay down a strict rule on the subject. The solution will depend in every case on the stage of industrial development of the country or industry concerned. In a country like England, training in the workshop will doubtless continue to play a predominant part, but in countries of more recent industrial development preference will probably be given to a system of vocational schools. The nature of the work in the undertaking will also be a decisive factor; when processes are continuous, for example, the conditions will be less favourable for the systematic training of young workers.

Whatever may be the relative advantages of the workshop and the school, those who favour the former admit that the workshop alone cannot train a worker, and those who favour school training admit that it cannot bear fruit unless the practical part of the curriculum reproduces, as closely as possible, the technical conditions of work in an undertaking. The supporters of the workshop realise that any workshop which undertakes to provide practical training must take pains to ensure that the training given is properly organised, supervised, and carried out. In some undertakings, especially in England, special workshops have been fitted up, in which beginners are given jobs of gradually increasing difficulty until they have acquired sufficient ability for regular work.

In countries in which vocational training is entrusted for preference to schools, an increasingly large place is reserved for practical work, so that in some cases the schools are known as apprenticeship or workshop schools. For the purpose of commercial training, the experiment has even been tried of establishing a fictitious firm, organised on the same lines as an actual firm, so that future bank or commercial employees, for example, may learn to negotiate, think, and work, like business men. The point of view adopted in those countries has been expressed as follows by Mr. Labbé:

> The practice of a trade is the essential factor in apprenticeship. Everyone is and must be in agreement on this point and, whatever may be said, there is no opposition between the school and the factory as regards the importance of workshop practice in vocational training . . .
>
> Anyone who has visited our practical schools knows that the workshop is the most important part, not only materially, as regards the extent of the premises and the number of machines, but also as regards the division of the time-table. When the number of hours of workshop training in these schools is being calculated, industrial practice is taken as a basis and, although the time may have been cut down

because apprenticeship in the factory is slower than in a workshop school where everything is adapted to the end in view, the relative value remains the same. [1]

Those who are in favour of training being given in schools often suggest that the dangers pointed out by the opponents of the system can be overcome by periods of probation in the workshop which would enable the pupil after completing his training in the school to become accustomed to the actual conditions of occupational life. The Belgian Committee, the report of which was already quoted, [2] proposes that industrialists should be asked to consider the possibility of making the pupils from higher industrial schools pass through a series of occupations in the factory in connection with their studies. In the United States efforts have been made to bring technical education into as close touch as possible with production by means of the "sandwich system", whereby pupils work alternately in a school and in a factory during the whole period of technical training.

Whatever differences of opinion may exist as to the best place for acquiring practical knowledge of a trade, it may be stated that at present there is general agreement as to what should be included in a complete curriculum of vocational training. There should be two elements, the one practical and the other theoretical, and these two should be linked up closely with each other. The best means of deciding the relative importance of each in any particular case and of preparing on that basis the detailed curriculum for each occupation is undoubtedly collaboration between the education authorities, the undertakings, and the industrial organisations. [3]

*Vocational Training and the Future Employment of the Worker*

From the point of view of the undertaking, the purpose of vocational training is to prepare workers who can satisfy its immediate needs. From the point of view of the individual, however, it should be concerned with his future professional career. This is one aspect under which the human factor has to be considered.

The first necessity is to prevent a candidate from entering an occupation without being certain or without giving him an

[1] E. LABBÉ : *La taxe d'apprentissage*, p. 21.

[2] See above, p. 150.

[3] On this question of collaboration, see below, p. 166.

opportunity of making certain that he possesses the qualities required for success in that occupation. One of the arguments put forward in England in support of the system of practical training in the workshop is that the method enables the young worker to realise by experience from the very outset of his career whether the trade in which he wishes to specialise is suitable for him. In other countries vocational guidance has been developed to meet this same difficulty. It has been seen above that one of the suggested advantages of raising the school-leaving age is that the last year can be devoted to vocational guidance and general pre-apprenticeship. The Bill prepared in France by the Department of Technical Training, already referred to, aims at the same object in a clause to the effect that " no young person under seventeen shall be allowed to be apprenticed to an industrial or commercial undertaking unless he possesses a certificate issued, free of charge, by the vocational guidance service of the Department. [1] All experts are agreed in recommending that specialisation in vocational schools should be limited, especially at the beginning, so as to enable pupils to switch over in time to other occupations. The International Congress on Technical Education held at Rome, in the resolution already quoted, urged that " vocational guidance should be made more general so as to avoid premature specialisation ". A practical example of this method is provided by the workshop schools of the Paris Chamber of Commerce, in which the first year is purposely devoted to quite general training, so that the pupils may be guided into those occupations which seem in the light of experience to be most suitable.

There is another reason connected with the future careers of young persons which is advanced as an argument against unduly early specialisation. Changes in technical methods and manufacturing processes always lead to a cessation or decline of the demand for certain types of specialised workers and create a need for other specialists. If a worker whose special qualifications become less frequently demanded cannot adapt himself to other work, it becomes more and more difficult for him to find employment and he is exposed to permanent

[1] A Belgian employer, Mr. Emile ROUSSEAU, general manager of the Charleroi Electrical Engineering Works, in a report submitted to an educational congress in Brussels in December 1935 *(Bulletin du Comité central industriel*, Brussels, 18 Nov. 1936), also proposes that vocational guidance committees should be set up in connection with vocational training and that an employers' representative should be a member of each committee.

unemployment. This is a problem which concerns not only the individual but the whole community, and it is particularly acute at the present time because technical change has become so rapid.

One of the aims of vocational training must therefore be to secure the greatest possible mobility of labour. This desire is in harmony with the movement for the raising of the school-leaving age and for the inclusion of general theoretical studies in the course of vocational training. The Belgian report already mentioned pointed out that young persons passing out from vocational schools should be able to adapt themselves rapidly to the new methods of manufacture which might be introduced in the future, and that it was therefore necessary to give them a greater amount of theoretical knowledge. In an address to the French National Congress of Employment Exchanges held in Strasburg in February 1937, Mr. Julien, Under-Secretary of State for Technical Education, made the following statement:

> The improvement of the curricula and methods must go hand in hand with a study of market possibilities. Technical education must not be based on a rigid occupational classification or on an unchanging economic morphology. It is necessary not only to ensure that the distribution of apprentices over the different apprenticeship courses leading to various occupations corresponds to the future possibilities of employment, in so far as these can be foreseen, but also to organise the various types of general vocational training for children in such a way that these children, when they become technicians, skilled workers, or employees, can specialise in or adapt themselves to whatever posts may be vacant in the employment market of the future.

Apart from this possibility of adaptation to a new occupation, which may be termed the horizontal mobility of labour, attention should be devoted in the organisation and curricula of vocational training to what has been called the need for vertical mobility, that is to say, the possibility of individual promotion. Reference has often been made to the danger of stratification inherent in the present situation. The extensive division of labour in the workshop normally gives a worker little opportunity of acquiring specialised knowledge in other branches by which he can distinguish himself from his fellows and acquire a claim to promotion to a higher position.

There is even a certain danger from this point of view in the present trend of vocational training. It has been pointed out that an increasing number of pupils prolong their studies beyond the compulsory school age and thus enter the vocational school or the workshop with a scientific and general training

which is very useful in their work. But what is an advantage to them may be a danger to others, as it reduces the possibility of promotion for those who have not had the advantage of the same preliminary training.

There is no need to emphasise the desirability both for the community and for the individual of providing ample possibilities of promotion. It will suffice to draw attention to two points: (1) it is impossible to expect the best work from a man who knows that, however great his ability may be, he cannot obtain recognition for it, and who sees young persons who have an initial advantage being promoted as a general rule to higher posts; (2) it is very desirable for industry to have a reserve of workers in every grade possessing the ability which gives them a claim to promotion to a higher grade.

The necessity for avoiding the risk of stratification is also used as an argument in favour of raising the school-leaving age, which would to some extent put pupils on a more equal footing at the point of departure. But the most important factor in this connection is the development of supplementary education. This is no new institution for apprentices. In certain countries it is compulsory for them to attend such courses, and it has been pointed out that there is a tendency to make such courses compulsory for all young persons. But if all workers are to be given a reasonable chance of promotion, supplementary education must not be restricted to apprentices or young persons, but must be available for all adults who wish to adapt themselves quickly to the changing needs of any industry and to improve their occupational position by extending their theoretical and practical knowledge. Considerable encouragement has recently been given to this new form of training. The national trade efficiency tests organised for some years back in Germany, which from 1938 onward will be open to all adult workers, will certainly stimulate the development of supplementary education. The trade competitions in Austria, France, and other countries, and the labour *Littoriali* in Italy, have a similar purpose. In England one of the arguments advanced in favour of the retention of the system of part-time training as a supplement to practical training in the workshop is that it provides the workers already in employment with considerable possibilities of promotion. There is apparently a tendency on the part of employers in that country to release members of their staffs during working hours in order to enable

them to attend technical courses. The Board of Education has for a long time recommended the extension of this practice.[1]

If this system is to be really effective, however, there must be a large number of schools near the workers' places of employment or their homes; otherwise it is practically impossible for workers who are in employment to attend the courses. Moreover, if it is to be really attractive, supplementary education—like all vocational training—must lead up to a system of certificates and diplomas supervised by the authorities and recognised by employers, and these certificates must carry with them a sufficient chance of promotion to a higher grade to make their acquisition really attractive. For this purpose, close contact must be established between the education authorities, the employers, and the occupational organisations.

The recognition of diplomas is a problem that goes beyond national limits. The International Bureau of Technical Education has begun to study the international aspects of the question and was invited by the Rome Congress of 1936, as a first step, " to establish a connection between the various occupational competency certificates issued by the affiliated nations in the fields of industry, commerce, and agriculture ".

### *Vocational Training and Economic Life*

In discussing the relationship between theoretical and practical training, the necessary adaptation of vocational training to new requirements, the necessity for safeguarding the mobility of labour so as to allow for future fluctuations in demand in the employment market, and the organisation of diplomas, which should, if they are to be effective, entitle their holders to obtain certain posts as vacancies occur, reference has frequently been made to the important part played by vocational training in economic life and to the necessity for studying and organising it in accordance with national economic requirements. It will be well to consider this question here from a wider point of view.

The recent depression definitely brought home to public opinion and Governments the fact that unemployment involves not merely a question of insurance or relief but also a problem of economic organisation. The desire to create fresh possibilities of employment or to protect the national employment market against certain factors making for depression has led Govern-

[1] Cf. BOARD OF EDUCATION : Educational Pamphlet No. 64, 1928.

ments to intervene in various ways in economic life. Plans for the reorganisation of industry or for guiding it into new channels have been drawn up in the light of national resources and the changes in the structure of markets. But the shortage of workers in certain branches of the employment market ever since the beginning of the recovery movement, combined with the overcrowding in other branches, has shown that any system of economic reconstruction would be exposed to the risk of failure unless vocational training was developed in accordance with the needs of that reconstruction.

Any action taken by the public authorities to guide or direct economic recovery was therefore bound to arouse fresh interest in this question. It is now quite clearly recognised that vocational training is a factor of fundamental importance in national economy, that for this reason it must be organised as an integral part of economic life, and that it provides a means of adjusting the employment market to the needs of the economic system at any given moment. As Mr. Julien said in his address to the Congress in Strasburg already mentioned, " The development of technical education must be considered in the light of the position in the employment market, its fluctuations, so far as they can be foreseen, and the hypertrophy or atrophy of different branches of the economic system revealed by a study of the market." Any increase in the part played by the State in the organisation of the economic system must necessarily result in a greater interest in vocational and technical training.

In certain cases there are other considerations which stimulate this interest. The present state of international economic competition is forcing many countries to develop their quality industries in order to escape the dilemma of losing their markets or accepting a lower standard of living. Social progress, and more especially the reduction of hours of work, must be balanced by an increasingly high standard of individual performance. It is therefore not surprising that vocational training, considered as a means of ensuring the fuller utilisation of labour, should have been carefully studied by such bodies as the National Economic Council and the Committee of Enquiry into Production in France [1], which were instructed to consider the possibility of increasing output at the same sime as the hours of work were reduced.

[1] " Rapport général du Comité d'enquête sur la production ", in *Journal officiel*, 16 Dec. 1937, pp. 13738-13743.

The maladjustment that has existed practically everywhere since the depression between the numbers of workers of different kinds available and the numbers required in the economic system has raised one special question in many countries—that of the selection, vocational rehabilitation, and reclassification, of the unemployed. This question, which is very serious at present because of the considerable volume of structural unemployment which still exists, will doubtless decrease in importance as the unemployed are reabsorbed into the economic system. But the rapidity of technical changes and economic evolution will probably make it a permanent problem, no matter what steps may be taken by such measures as adequate vocational training to ensure the mobility of labour.

From the point of view of the future economic welfare of the world, efforts are being made to prevent a further depression, if it does come, from having the same disastrous effect on the development of vocational training as the recent one. This question was considered by the Conference of Ministers of Social Welfare of the Northern European countries at Helsingfors on 23 and 24 August 1937. Dr. W. Björck, Under-Secretary of State in the Swedish Ministry of Social Affairs, advocated as a means of preventing a shortage of certain essential categories of workers during any future depression the creation of a new type of institution which would act during a depression as a kind of workshop school to train the type of worker required in any given district of the country, the term " district " being understood in an economic and an occupational sense. It will be seen that the problem of vocational training is now definitely recognised as one of the aspects of the measures to be taken for organising the labour market in accordance with the requirements of economic life.

### *Social and Educational Progress*

It is not merely because of its importance for economic life that vocational training is now receiving increasing general attention. It is considered also as a factor in social and educational progress. The mere fact of having a trade which he has thoroughly learned gives the worker a feeling of confidence and dignity. As a report recently published in the United States [1]

[1] U. S. DEPARTMENT OF THE INTERIOR. OFFICE OF EDUCATION : *Apprenticeship in England, France and Germany*, Vocational Education Bulletin No. 176, June 1934.

puts it, " A man who knows his trade well will have a deeper sense of his own value and is, therefore, certain to be a much better citizen than an unskilled worker." The demand for wider education within the framework of vocational training is based on the conviction that education is of value in all the circumstances of life and that every citizen should have a possibility of obtaining it. It is felt that if a worker has a more extensive knowledge of his trade it will help him to react against the automatic and monotonous nature of his labour and regain his personality. In a report on the whole subject of vocational training and popular education, the Committee on Technical Education of the General Confederation of Labour in France expressed its point of view as follows :

> From our standpoint it is impossible to conceive of vocational training as consisting only in the manual and technical requirements of the occupation. Training for an occupation, even if given in the factory, workshop, office, shop, or field, must be supplemented by some measure of general education, training in citizenship, and training in economics.
>
> To act otherwise would be to shut out a large section of the working class from any possibility of completely developing their natural gifts and therefore to exclude them from complete emancipation.

Similarly the International Congress on Technical Education in Rome recommended that " technical education, without departing from complete adaptation to the economic conditions on which it depends, should provide technical workers with general and social culture in keeping with their position in modern society ".

The purpose of vocational training is thus tending to become wider. By linking it up with the general movement for improved education it is felt that the human factor is being given its due place in modern industry. Vocational education, by providing the individual with a fuller understanding of the part he plays in the work of the undertaking and of the economic system as a whole, should help to strengthen his sense of the dignity of labour and his professional pride. By aiming at the development of the individual personality as a whole, vocational training should prepare the worker to make fruitful use of his spare time as well as train him for his occupation ; it thus helps to bring occupational life once more into touch with the ordinary life of the worker outside his job, and this cannot but be profitable in both directions.

## Need for Co-ordination

It has been seen that the problem has a variety of aspects and that numerous interests are involved. This diversity has naturally led to a large number of different official and private activities all helping to develop the movement, but requiring co-ordination if their action is to be coherent and serve the interests of the community as a whole. At the present stage there does not seem to be any need to choose between public and private initiative. In point of fact private initiative in varied forms, and more particularly by employers' and workers' organisations, has developed steadily side by side with the work of the public authorities. The new factor is the effort to bring about collaboration between the different agencies concerned, so that their work can be co-ordinated and the institutions for vocational training, irrespective of their origin, guided along lines that will serve all the interests involved.

Various bodies have been set up or proposed in different countries. These bodies have often very extensive powers covering the whole country. An example of these is the Belgian Higher Council for Technical Education, which is an advisory body attached to the Technical Education Office set up in 1933; it consists of some 50 persons representing those responsible for technical education and the organisations of employers and workers. In other countries a regional system of co-ordination exists. In Italy, for example, the *Consorzi provinciali per l'istruzione tecnica* were set up in 1929 and reorganised by a Legislative Decree of 1935. In Great Britain, the Yorkshire Council of Further Education, the Advisory Council for Technical Education in South Wales and Monmouthshire, and the Regional Council for the West Midlands, are examples of advisory bodies consisting of representatives of the education authorities, the employers, and the organisations concerned, which help to co-ordinate the work of the vocational training institutions in the districts in question. [1]

[1] The recent report, already quoted, of the Committee of Enquiry into Production in France also emphasises the need for better co-ordination, in the following terms: "Apprenticeship and the training of skilled workers are still unsatisfactory. The efforts that have been made are isolated and their results fragmentary. It is essential that they should be co-ordinated in a general programme in which the steps taken by private initiative would be linked up with those of the public authorities. A scheme has been drawn up by the Government, and the question is being studied by the National Economic Council. It is important that this problem should be solved without delay."

All such bodies have really a double purpose : in addition to their work of co-ordination they are expected, as a result of their composition, to provide that contact which is necessary between economic and vocational life and the training of the workers. This was brought out by the International Congress on Technical Education at Rome, which recommended that " the trade unions, as competent observers of all matters connected with production, trade, and labour, should be asked to collaborate closely with the State and the private associations concerned in the study of problems connected with technical education ".

* * *

In conclusion it may be said that at no period since the beginning of modern industrial life has there been such a general and intense interest in vocational training. In every country the institutions and methods of training are being studied closely and reforms are being proposed with a view to adapting the system to the needs of modern economic life. On many points doubts still exist as to the forms and methods that will eventually be adopted in any country, but the general trend of the movement and the principles which it follows in every country would appear to bear a considerable resemblance to each other. Everywhere there is the same desire to take advantage of the respite granted by the present economic situation, to derive lessons from the past, and to organise vocational training in such a way that it can more adequately meet the needs of the moment and be less exposed to the consequences of any fresh economic depression.

# Some Economic Aspects of Rearmament : I

by

A. S. J. Baster

*The* Review *offers this article as a commentary from one particular point of view on a much-discussed factor in economic development during the last few years, namely rearmament expenditure. The article attempts to appraise the general economic significance of this expenditure, its importance at present, and the implications which it may have for the development of international economic relations in the near future. The argument is built up on lines suggested by recent discussions of the trade cycle, and deals with rearmament expenditure particularly from the point of view of its effects on the cyclical process. Mr. A. S. J. Baster, formerly Lecturer in Economics at University College, Exeter (England), was temporarily attached to the Economic Section of the International Labour Office. His article is of course to be regarded as an expression of his personal views only, and not in any way as an interpretation of the policy of the International Labour Office.*

FOR some time public opinion in various countries has been apprehensive of the danger and risks of another economic depression like the last. The present business recession in the United States has accentuated these fears, and speculation is rife as to the appropriate manner of meeting a substantial reversal of the recovery movement. It is generally realised that many characteristics of the recent recovery and of the present economic situation show the influence of a new factor, namely rearmament expenditure. In the following article an attempt is made to analyse some of the effects of this expenditure, and to outline some possible ways of meeting the difficulties to which it may give rise.

## The Magnitude of Rearmament Expenditure

Some indications of the importance of rearmament expenditure at present, and its rate of increase in the last few years, appear in table I.

TABLE I. NATIONAL DEFENCE EXPENDITURE OF CERTAIN COUNTRIES [1]

(*Millions*)

| Country | Currency | 1913 [2] | Per cent. of 1913 national income | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | Per cent. of 1937 budget |
|---|---|---|---|---|---|---|---|---|---|---|
| United States | $ | 491 | 1.4 | 641.6 | 570.4 | 804.7 | 913.3 | 966.6 | 993.2 | 11.7 |
| United Kingdom | £ | 77 | 3.4 | 88.2 | 93.5 | 99.1 | 122.3 | 162.6 | 261.6 | 29.3 |
| France | Francs | 2,062 | 5.5 | 10,860.2 | 13,606.4 | 11,645.7 | 13,218.1 | 7,338.6 | 9,694.4 | 20.1 |
| Germany | Marks | 2,056 | 4.6 | 633.7 | 671.7 | 894.3 | 6,500.0 [4] | 6,500.0 | — | — |
| Italy | Lire | 737 | 3.2 | 5,481.8 | 4,891.7 | 5,665.1 | 4,417.1 [5] | 4,734.7 | 6,036.1 | 25.4 |
| Soviet Union | Roubles | 718 | — | 1,412.3 | 1,547.3 | 5,000.0 | 8,200.0 | 14,815.5 | 20,102.2 | 20.7 |
| Poland | Zloty | — | — | 837.8 | 841.4 | 848.7 | 838.7 | 837.5 | 838.8 | 37.7 |
| Czechoslovakia | Crowns | — | — | 1,935.8 | 1,843.3 | 2,071.5 | 2,161.5 | 2,317.6 | 2,095.3 | 24.8 |
| Japan | Yen | 208 | — | 686.4 | 872.6 | 941.8 | 1,033.0 | 1,059.8 | 1,409.0 | 56.0 |
| Estimated total for 60 countries [3] | U.S. $ (1936 parity) | — | — | 3,815.7 | 3,992.0 | 5,064.1 | 8,810.1 | 10,730.7 | — | — |

[1] Compiled from figures taken from League of Nations: *Armaments Year-Book*, 1937.

[2] Cf. Stone and Fisher: "The Rising Tide of Armament" (Foreign Policy Reports, 15 Feb. 1937).

[3] The 1913 figures are from Jacobson: "Armaments Expenditure of the World", reprinted from *The Economist*, London, 1928.

[4] Estimates of Stone and Fisher: *op. cit. The Banker* (London, Feb. 1937, p. 114), estimated a total of 31,100 million marks for the period 1933-34 to 1936-37. Cf. also estimates of Trivanovitch on p. 190.

[5] According to a speech of the Italian Finance Minister delivered in May 1937 expenditure on the conquest and exploitation of the Empire during 1934-35 and 1935-36 amounted to 12,111 million lire.

The official figures are incomplete, and have been supplemented by unofficial estimates where indicated. If rearmament expenditure is broadly defined to include any expenditure intended to serve the end of national preparedness for war, there are obvious gaps in every case. In conscript countries, there is the expense of maintaining large sections of the working population in unproductive occupations during their most fruitful years; in almost all countries there are the costs of national self-sufficiency—tariffs, subsidies to industries producing substitutes, uneconomic diversions of resources into agriculture, various sorts of "planning" for strategic purposes

(such as the reorganisation of road and rail transport to serve threatened frontiers), re-planning urban settlement so as to minimise air-raid risk, neglecting export markets for domestic armament orders, etc., a great deal of which need never appear as Government expenditure at all, much less as part of the national defence budget.[1] It is quite impossible to separate the part of these expenditures incurred for defence from the part incurred for other reasons.

Since the published figures are incomplete in these diverse ways to a varying extent in different countries, they cannot safely be used for purposes of comparison. Comparisons are also vitiated by variations in exchange rates, differences of nomenclature and budget procedure, and irregular extra-budgetary defence expenditure.[2] Even so, the figures as they stand represent relatively large proportions of the national budgets and national incomes of most States, and they show a striking increase in the last few years.[3] Their magnitude is better appreciated in comparison with estimates of recent public works expenditures.[4] Polish State expenditure on public works in 1931-2 was 345 million zloty ; appropriations allotted to the French Ministry of Public Works in 1933 were 272 million francs ; in Germany, in June 1934, total sums voted on the 1932

---

[1] Complete enumeration and valuation of all the peculiar forms of subsidising rearmament is impossible. A common but not very obvious form is the Government practice (common in most countries with a private arms industry) of spreading orders in such a manner as to keep even inefficient armament firms in operation, so that expansion in war-time will be easier. Monopolies justified partly on the ground of national security (such as Imperial Chemical Industries in Great Britain) cause economic waste, compared with the full effectiveness of competition, which ought strictly to be debited to national defence. Cf. ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS : *Minutes of Evidence, 1935*, p. 269 ; UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report*, Vol. 2 ; P. N. BAKER *(The Private Manufacture of Arms*, Vol. 1, p. 65) states that British armament firms receive a disguised subsidy of £1,000,000 a year in the shape of the results of costly Government researches, which are passed to them gratuitously.

[2] For example, the Public Works Administration in the United States recently transferred 238 million dollars to the Navy for the creation of employment. For a full list of the technical difficulties of comparing defence budgets, see J. C. STAMP : *Economic Effects of Disarmament*, p. 6, and LEAGUE OF NATIONS : CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS : *Report of the Technical Committee.* Conf. D. 158, Vol. 1, ch. 21.

[3] The German Institute for Business Research gives the following percentages of arms expenditure to national income in 1935 ; United States, 1.5 ; Great Britain, 3 ; France, 7.4 ; Japan, 8 ; Poland, 9 ; Soviet Union, 12.5 ; the world, 2-3 *(Vierteljahrshefte zur Konjunkturforschung*, Vol. III (a), 1937, p. 283). FORSTER, in *The Contemporary Review* of July 1935, alleges that the rate of increase of world armament expenditure is greater now than it has ever been.

[4] Cf. INTERNATIONAL LABOUR OFFICE : *Public Works Policy ;* Studies and Reports, Series C (Employment and Unemployment), No. 19, pp. 33-57. Geneva, 1935.

and 1938 programmes for public works amounted to 5,448 million marks; in Great Britain, national schemes of unemployment relief and economic development and local borrowings for this purpose by public bodies cost £246 million in 1930-31; in Italy, public works undertaken by the State, local authorities, and private concerns, amounted for 1932 to 5,873 million lire; in Japan, total public works expenditure in 1931 was 37½ million yen. In all cases these figures are below the defence estimates for 1937—in most cases, considerably below. Another conception of the magnitude of armament expenditure is suggested by the statement of the Federation of British Industries [1] that the direct stimulus given by rearmament in 1936 was four to six times that given by foreign investment in the last boom; in a recent note on the British rearmament programme [2], Mr. Balogh calculates that the contemplated expansion of capital equipment for rearmament is "of somewhat the same order of magnitude" as the recent expansion in building activity during the housing boom which is alleged to have led the country out of the depression. In 1936, the German Institute for Business Research calculated [3] that at least 11 per cent. of the net product of world industry was being spent on armaments.

## Rearmament and "Boom" Conditions

Defence expenditure did not increase substantially much before 1935; its effect on the world economy thus consisted in calling forth fresh activity in the midst of the recovery movement, which by then was well advanced in most countries outside the gold bloc, and which had already been stimulated considerably by large Government expenditures for relief purposes. Because of its complex secondary effects, it is quite impossible to say how much of the increase in business activity in various countries was due to armaments expenditure; but the increased *tempo* of recovery after 1935 and the boom conditions in the heavy industries during the early months of 1937 are at least consistent with the explanation given above.

The general trend towards boom conditions in a number of rearming countries may be illustrated by the following table.

---

[1] Cf. *F.B.I. Business Barometer*, 3rd Quarter, 1937.

[2] Cf. Manchester University: *The Manchester School*, Vol. VII, No. 2.

[3] *Op. cit.*, p. 281.

TABLE II. RECOVERY OF INDUSTRIAL PRODUCTION IN VARIOUS COUNTRIES [1]

| Index | United States | | | United Kingdom | | | France | | | Germany | | | Italy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1932 | 1936 | Average: first six months of 1937 | 1932 | 1936 | Average: first six months of 1937 | 1932 | 1936 | Average: first six months of 1937 | 1932 | 1936 | Average: first six months of 1937 | 1932 | 1936 | Average: first six months of 1937 |
| General index of industrial production | 54 | 88 | 98 | 83 | 116 | 124 | 69 | 70 | 74 | 53 | 106 | 113 | 67 | 87 | 98 |
| Engineering index | 13 | 88 | 134 | 73 | 121 | 135 | 61 | 64 | 73 | 38 | 97 | 113 | 68 | 115 | 126 |
| Textiles index | 72 | 97 | 109 | 86 | 104 | 109 | 65 | 73 | 74 | 87 | 107 | 106 | 66 | 69 | 80 |
| Pig-iron and ferro-alloys (thousand metric tons) | 735 | 2,591 | 3,336 | 303 | 651 | 679 | 461 | 520 | 626 | 328 | 1,275 | 1,252 | 38 [2] | 62 | 59 |
| Steel (ingots and castings) (thousand metric tons) | 1,128 | 3,973 | 4,871 | 445 | 990 | 1,073 | 470 | 559 | 655 | 481 | 1,596 | 1,624 | 116 | 169 | 179 |

| Index | Japan | | | U.S.S.R. | | | Poland | | | Czechoslovakia | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1932 | 1936 | Average: first six months of 1937 | 1932 | 1936 | Average: first six months of 1937 | 1932 | 1936 | Average: first six months of 1937 | 1932 | 1936 | Average: first six months of 1937 |
| General index of industrial production | 98 | 151 | 168 | 183 | 382 | — [3] | 54 | 72 | 84 | 63 | 80 | 96 |
| Engineering index | 107 | 242 | 285 | 333 | 926 | — [3] | 44 | 74 | 91 | — [3] | — [3] | — [3] |
| Textiles index | 105 | 135 | 145 | — [3] | — [3] | — [3] | 63 | 80 | 88 | 68 | 91 | 111 |
| Pig-iron and ferro-alloys (thousand metric tons) | 98 | 185 | 213 | 513 | 1,193 | 1,183 | 17 | 49 | 56 | 38 | 95 | 134 |
| Steel (ingots and castings) (thousand metric tons) | 200 | 419 | 479 | 490 | 1,362 | 1,458 | 47 | 95 | 113 | 56 | 130 | 184 |

[1] LEAGUE OF NATIONS: *Monthly Bulletin of Statistics*, Oct. 1937. Indexes are based on 1929 = 100. [2] Excluding ferro-alloys. [3] Figures not available.

To judge from the statistical indicators, the boom took a "normal" course, clearly influenced at a number of points by rearmament. Recovery developed along "nationalist" lines, with international trade (except the trade in armaments) lagging behind productivity, as shown in the table below.

TABLE III. INDEXES OF WORLD ECONOMIC ACTIVITY

(*Base : 1929 = 100*)

| Index | 1932 | 1933 | 1934 | 1935 | 1936 |
|---|---|---|---|---|---|
| World production [1] : | | | | | |
| Foodstuffs | 90.7 | 101.5 | 101.5 | 100.9 | 102.9 |
| Raw materials | 71.4 | 78.8 | 85.3 | 93.5 | 105.5 |
| Industrial activity | 69.0 | 78.0 | 85.0 | 96.0 | 111.0 |
| World trade quantum [1] : | | | | | |
| Foodstuffs | 89.0 | 83.0 | 82.0 | 85.5 | 86.0 |
| Raw materials | 81.5 | 87.5 | 88.0 | 91.5 | 96.0 |
| Manufacturing | 59.0 | 60.5 | 66.5 | 69.5 | 75.0 |
| Value of exports : | | | | | |
| General [2] | 39.0 | 35.5 | 34.3 | 35.0 | 37.8 |
| Value of exports : | | | | | |
| Armaments | 52.9 | 57.2 | 61.4 | 60.4 | 71.5 |
| World unemployment [3] | 291.0 | 277.0 | 225.0 | 196.0 | 151.0 |

[1] LEAGUE OF NATIONS : *World Economic Survey*, 1936-37, ch. VI.
[2] LEAGUE OF NATIONS : *Statistical Year-Book of the Trade in Arms and Ammunition. 1937*, p. 202.
[3] INTERNATIONAL LABOUR OFFICE : *I.L.O. Year-Book of Labour Statistics*, 1936 and 1937

International trade in raw materials picked up much more than the trade in foodstuffs and very much more than the trade in manufactured goods, in conformity with the policy of national self-sufficiency of the principal rearming countries. The diversion of trade to members of the same political bloc is also part of the same policy. Thus the share of "British" countries in total imports of the United Kingdom rose from 35.3 per cent. in 1932 to 39.2 per cent. in 1936, while the share of these countries in United Kingdom exports rose from 45.3 per cent. to 49.2 per cent. Trade within each "imperial" bloc (the British, French, Dutch, Belgian, and Japanese) is estimated to have reached 13.7 per cent. of world trade in 1932 and 17.7 per cent. in 1936 [1].

[1] LEAGUE OF NATIONS : *Review of World Trade*, 1936, p. 69.

[1] LEAGUE OF NATIONS : *Monthly Bulletin of Statistics*, Oct. 1937. Indexes are based on 1929 = 100. [2] Excluding ferro-alloys, [3] Figures not available.

In general, the national wholesale price indexes have shown a reassuring lag behind indexes of productivity [1], but there were sharp price rises at the beginning of 1937 and much greater rises in raw material prices than in any others.

TABLE IV. PRICE MOVEMENTS IN VARIOUS COUNTRIES [1]

| Country | Wholesale | | | | Raw materials | | | | Manufactured goods | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Percentage change | | | | Percentage change | | | | Percentage change | | | |
| | 1934 | 1935 | 1936 | Jan.-Mar. 1937 | 1934 | 1935 | 1936 | Jan.-Mar. 1937 | 1934 | 1935 | 1936 | Jan.-Mar. 1937 |
| United States | + 9.1 | + 2.3 | + 6.6 | + 2.0 | + 19.5 | + 2.0 | + 12.8 | + 2.0 | + 6.3 | + 2.0 | + 3.0 | + 1.5 |
| United Kingdom | — 0.6 | + 4.0 | + 12.1 | + 6.7 | — 6.7 | + 11.3 | + 22.4 | + 12.5 | + 0.1 | + 1.4 | + 6.5 | + 4.3 |
| Poland | — 8.8 | — 1.1 | + 12.1 | + 2.3 | — 10.7 | — 0.5 | + 21.1 | + 1.4 | — 5.0 | — 2.1 | + 1.3 | + 0.5 |
| Italy | + 0.7 | + 19.8 | + 6.5 | + 3.7 | — 0.9 | + 23.8 | + 14.8 | + 3.3 | + 1.3 | + 13.6 | + 8.5 | + 2.5 |
| Germany | + 5.0 | + 2.5 | + 1.6 | + 0.6 | + 2.1 | + 1.7 | + 3.6 | + 1.3 | — 4.6 | + 0.3 | + 2.9 | + 0.4 |

[1] LEAGUE OF NATIONS: *World Production and Prices, 1936/1937*. Figures for 1937 from unpublished sources.

In the United States, the largest spring advances (Bureau of Labour Statistics wholesale price index) were in metals [2], farm products, and building materials; in England (Board of Trade wholesale index) in coal, iron and steel, non-ferrous metals, and "basic industrial materials in general". Some of these movements were undoubtedly speculative; but the reduction in world stocks of the principal raw materials and foodstuffs suggests that the limits of supply were being reached [3] in many directions and that blockages resulted.

[1] Early in 1937, however, the wholesale price index in Great Britain rose above the *Economist* index of business activity for the first time.

[2] In April 1937 President Roosevelt announced that the United States Government would stop buying steel and copper as it considered the prices too high.

[3] Normally, rising output and sales would be expected to be accompanied by increased stocks. Doubtless the erratic behaviour of stocks is partially to be explained by semi-monopolistic price-fixing, which reduces prices in a depression and increases them in a recovery only after long delay.

TABLE V. STOCKS OF PRIMARY COMMODITIES AND RAW MATERIALS [1]

| Item | 1929 | 1932 | 1933 | 1934 | 1935 | 1936 |
|---|---|---|---|---|---|---|
| World index of stocks of primary commodities (average for 1925-29 = 100) | 120 | 141 | 140 | 133 | 118 | 108 |
| Industrial raw materials stocks at end of year (average for 1925-29 = 100) | 116 | 137 | 131 | 124 | 109 | 103 |
| Total cotton stocks on 1 August (thousand bales) | 9,625 | 17,046 | 16,076 | 15,879 | 13,591 | 11,846 |
| Wool stocks of 4 exporters on 1 July (thousand metric tons) | — | 97 | 38 | 71 | 49 | 30 |
| Rubber at end of year (thousand metric tons) | 385 | 649 | 674 | 757 | 672 | 512 |
| Copper at end of year (index : 1925-29 = 100) | 125 | 213 | 191 | 171 | 161 | 118 |
| Tin at end of year (index : 1925 = 100) | 136 | 206 | 96 | 56 | 49 | 79 |
| Lead in United States and United Kingdom at end of year (index : 1925-29 = 100) | 108 | 274 | 315 | 322 | 309 | 243 |
| Zinc in United States and United Kingdom at end of year (index : 1925-29 = 100) | 240 | 407 | 327 | 385 | 269 | 186 |

[1] LEAGUE OF NATIONS : *World Production and Prices, 1936/1937.*

Inelasticity in the labour supply was also developing. The available statistics do not suggest that the pressure was sufficient to lift real wages even to the extent of equalising the recent increases in productivity, but in the skilled sections of the employment market, particularly those affected by specifically rearmament industries, it seems that limits were being reached in Great Britain, Germany, Japan, and other industrial countries [1].

[1] Cf. reports cited in LEAGUE OF NATIONS : *World Economic Survey, 1936-37*, p. 104.

TABLE VI. INDUSTRIAL PRODUCTIVITY AND THE REAL WAGES OF INDUSTRIAL WORKERS IN VARIOUS COUNTRIES [1]

| Country | Nature of wage data | 1932 | | 1935 | | 1936 | |
|---|---|---|---|---|---|---|---|
| | | Real wages | Industrial productivity | Real wages | Industrial productivity | Real wages | Industrial productivity |
| United States | Hourly earnings (National Industrial Conference Board) | 108 | 54 | 123 | 76 | 123 | 88 |
| | Weekly earnings (do.) | 77 | | 95 | | 101 | |
| United Kingdom | Weekly rates | 100 | 83 | 111 | 106 | 111 | 116 |
| France (Paris) | Hourly rates | 110 | 69 | 117 | 67 | 127 | 70 |
| Germany | Hourly rates | 104 | 53 | 99 | 94 | 98 | 106 |
| Italy | Hourly earnings | 104 | 67 | 110 | 92 | 104 | — |
| Japan | Daily earnings | 112 | 98 | 105 | 142 | 101 | 151 |
| Poland | Hourly earnings | 111 | 54 | 114 | 66 | 118 | 72 |
| Czechoslovakia (Prague) | Hourly minimum rates | 112 | 63 | 108 | 70 | 106 | 80 |

[1] LEAGUE OF NATIONS: *Monthly Bulletin of Statistics*, Oct. 1937; INTERNATIONAL LABOUR OFFICE: *Year-Book of Labour Statistics 1937.*

Naturally, countries where large conscript armies have recently been created have deprived their industries of many men who would otherwise have been trained as skilled labourers. In Germany, armament concerns have now to be given priority in the allotment of skilled metal workers [1], and advertising for skilled workers in the metal and building trades requires official permission. Even in England, shortages of skilled labour in the engineering and metal trades have been chronic, and cyclical unemployment was alleged to have disappeared altogether. [2]

[1] Cf. TRIVANOVITCH: *Economic Development of Germany under National Socialism*, p. 57 (National Industrial Conference Board, New York).

[2] *The Economist*, 20 March 1937. Sir William Beveridge wrote in September 1936 that cyclical unemployment was "practically non-existent"; but added later (cf. *Economica*, May 1937) that rearmament might "eat into the 4 per cent. of long-period unemployment" and might reduce frictional and seasonal unemployment from 8 per cent. to 6 per cent. R. W. B. Clarke suggests (cf. "Internal Consequences of Rearmament", in *Political Quarterly*, July 1937) that the "obsolescence of skill" in engineering and shipbuilding may make this a long and costly operation.

Shortages of working capital are indicated by pressure on the banking systems. Available figures show a diminished cash reserve against deposits recently in Great Britain, Italy, Japan, and Poland [1]. In Great Britain the ratio dropped to nearly 10 per cent. in July 1937, as compared with a pre-depression ratio of 11.7 per cent.; there has been a recurrence of " window-dressing "—evidence of the strain on reserves [2]—and the banks' sales of securities to restore their liquidity are said to be an embarrassment to Government rearmament issues [3]. Borrowing by the British Government has already forced up long-term interest rates from a 3 to a 3½ per cent. basis, and has produced serious setbacks in the bond markets. [4]

The limits of productive capacity in the steel industry—the basis of rearmament—began to be reached everywhere in 1937. Imports of iron and steel into Great Britain in June 1937 were over six times as great as in June 1936, but the industry was even then unable to satisfy all requirements [5] (of which fully 20 per cent. were for armaments) and building operations particularly were seriously delayed. The United States steel industry was reported to be close to effective capacity in April, when the *Iron Age* stated that " seldom if ever, in the history of the steel industry, not excluding 1920 and 1929, has there been so decidedly a sellers' market. " [6] " Bottle-necks " in the steel industry explain the abolition by Great Britain of the tariff on pig-iron in March 1937 and the reduction and final abolition (under certain conditions) of the import duty on iron and steel products, and also the abandonment by Japan of import duties on iron and steel for the period April 1937—March 1938.

No interruption in the rate of increase of industrial profits was visible by the middle of 1937. The *Economist* index for Great Britain, after a steady rise of about eleven points from 1934 to 1936, rose twenty points in 1937, with the largest

---

[1] LEAGUE OF NATIONS : *Monetary Review, 1937*, Appendix, Table XII.

[2] LEAGUE OF NATIONS : *World Economic Survey, 1936-37*, ch. 2.

[3] VALLANCE : " Arms and the Slump ", in *New Fabian Research Bureau Quarterly*, No. 14, 1937.

[4] This situation has developed in spite of the favourable position of the British Government as a borrower in London at present, due to its access to extra-budgetary funds through the National Debt Commissioners. Cf. HALL : " Some Technical Aspects of the Financing of Rearmament ", in *Economica*, May 1937.

[5] *The Economist*, 17 July 1937.

[6] *The Iron Age*, 25 March 1937 ; *London and Cambridge Economic Survey*, 3 April 1937.

individual rises in shipping, rubber, oil, iron, coal, steel, engineering, motors, and aircraft, in that order.[1] In 1936 the return on the nominal capital of 2,140 United States corporations rose from the 1935 average of 5 per cent. to 7.4 per cent.; and preliminary estimates for 1937 show a further rise to 11.8 per cent., again principally in the capital-goods industries. It is doubtful how far this rate of increase can be maintained in face of the rise in costs, in part due to rearmament. Mr. C. Clark's elaborate British index of " the incentive to invest ", varying with profits, the price of capital equipment, and the rate of interest, reached its maximum in the last quarter of 1936 and is now declining.[2]

The above-mentioned tests suggest that the productive machine in the principal industrial countries became fully occupied in the early part of 1937, and that competition for the use of it was driving up costs so as to threaten profits in the near future. Although the stimulus given to economic activity by rearmament has been considerable, the tests do not and cannot show how great it has been, or what the precise reactions of such expenditure are. This is a task for general analysis.

## Economic Problems of Rearmament

There is no generally accepted explanation of " the business cycle "; but the rather specialised nature of rearmament expenditure makes the analysis of its effects on business fluctuations somewhat less controversial and less dependent on particular theoretical doctrines. Starting at a low level of abstraction, it may be said that one of the chief characteristics of a boom is a relatively greater expansion of the capital-goods industries as compared with the consumption-goods industries. Rearmament will exaggerate this disparity. Table VII (p. 179) shows that the disparity has in fact become marked and is consistent with this interpretation.

Speed is the essence of the process; armament manufacture is competitive, and economic safeguards are at a discount if they interfere with production programmes. But a century of experience with railway booms, building booms, and the

---

[1] *The Economist*, 17 July 1937. Profits for the second quarter in each year.

[2] Cited in *Economic Journal*, June 1937. This index meets the objection to ordinary profit indexes that they are based always on past profits (usually of a whole year), whereas current business activity depends on estimates of future profits.

TABLE VII. PRODUCTION OF INVESTMENT GOODS AND CONSUMPTION GOODS IN VARIOUS COUNTRIES [1]

*(Base : 1929 = 100)*

| Country | 1932 | | 1935 | | 1936 | | July 1937 | |
|---|---|---|---|---|---|---|---|---|
| | Investment | Consumption | Investment | Consumption | Investment | Consumption | Investment | Consumption |
| United States | 28 | 76 | 63 | 88 | 82 | 94 | 101 | 93 |
| Germany | 34 | 76 | 99 | 88 | 113 | 98 | 129 | 101 |
| Japan | 134 | 118 | 195 | 138 | 219 | 143 | 254 | 163 |
| Poland | 42 | 64 | 62 | 75 | 72 | 78 | 90 | 87 |

[1] LEAGUE OF NATIONS: *Monthly Bulletin of Statistics*, Oct. 1937.

like, has shown that a relatively great expansion of the capital-goods industries during a boom must sooner or later be reversed by an investment crisis, which brings about at least a marked contraction in the capital-goods industries followed by capital losses and unemployment. An explanation commonly accepted at present is (*a*) that there is excessive investment in the capital-goods industries based on false assumptions about the rate of growth in consumer expenditure, and (*b*) that through inflation the money stream becomes " artificially " diverted from consumer-goods markets to investment-goods markets.[1] Thus some damping down of investment (as by taxation or high interest rates) and redirection of the money stream (as by imposing some system of " neutral " money) appear desirable in theory. But in practice the slightest deviation from what is theoretically desirable at a critical stage of the cycle is liable to have cumulative effects. Intense specialisation of the economic system to produce houses or railways in great quantities at short notice

[1] The first problem is illustrated by Professor Aftalion's fire, " As one rekindles the fire in the hearth in order to warm the room, one has to wait awhile before one has the desired temperature .... To allow oneself to be guided by the present sense of cold and the indications of a thermometer to that effect is fatally to overheat the room. " Cf. HABERLER : *Prosperity and Depression*, p. 127. The second problem is illustrated by Mr. Robertson's bank loan, originally created for the production of goods. " While the goods are coming to birth, the money created on the strength of them is going on its travels, flitting from chequery to chequery :

Like the wandering dove that found
No repose on earth around."

The new money diverts resources to producers and so causes " forced " saving.

is thus difficult enough to deal with in ordinary times. We are now faced with intense specialisations for the manufacture of arms at a time of great political tension, at a competitive rate, and not for any economic reason but as an alleged necessity of national existence. It appears likely that the stimulus of rearmament, which might have had some economic advantage [1] in 1932, has (with a world boom then gathering momentum) increased over-investment from 1935 onward.

This outline of the analysis may now be filled in with greater detail. Broadly speaking there are two economic problems of rearmament. First, what may be called the " budget problem " of collecting from private individuals the requisite proportions of the national income ; second, the " diversion problem " of adjusting the economy to produce more armaments with the proceeds of budget collections, and readjusting it to its old tasks when rearmament is finished. The budget problem will be different in different countries ; " diversion " has some common characteristics which may be discussed first.

### (*a*) " *Technical* " *Diversion*

The technical difficulties of diversion are far less serious than is commonly believed. Technical progress has increased the " war potential " of industrial countries partly because the arms-manufacturing industries depend largely on specialised equipment common in the " heavy " industries and on particular sorts of skilled engineering labour. Extreme specialisation sometimes necessitates equipment which is of little use for any other purpose, owned either by very few firms or by the State. In England, for instance, armour plate is said to be manufactured by three firms only, submarines by two firms, and gun mountings and tanks by the Vickers firm only. [2] Small-arms powder is produced commercially by many firms in several countries ; " cannon powder " not at all. These specia-

---

[1] Conversely, the depth of the depression was no doubt partially due to efforts to disarm at that time. The difficulties of the British steel industry (leading to the heavy writing down of steel capital and extensive rationalisation schemes based on the English Steel Corporation) were not unconnected with a falling off of armament orders after the war. Professor J. H. Jones, in his article entitled " Notes on the Next Depression " in *Building Societies Gazette*, Aug. 1937, stated that " much of our persistent unemployment between 1923 and 1929 was due to disarmament ".

[2] R. W. B. CLARKE : *op. cit* ; and ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS : *Minutes of Evidence*, 1935. Appendix to ch. 8.

lised products are often made in parts of a plant devoted mainly to other uses [1] and the sudden expansion or contraction of such parts in the few plants involved may clearly require great technical organisation. But the manufacture of such specialised equipment is connected only indirectly with the ordinary economic system (being " nursed " by Government subsidies or other special treatment); the products themselves are exceptional [2], and a well-rounded constellation of manufacturing industries and commercial firms can easily be organised, without serious technical changes, to supply most needs, the aim being not merely to accumulate stocks of war equipment but to build up the machinery necessary to manufacture them at short notice, and adequate forces of highly-trained technicians (including chemists, surveyors, builders, tailors, accountants and lawyers) to see that the machinery works effectively. Thus there is no technical difficulty in diverting the iron ore, coal, and limestone, used in the construction of battleships and shells, the non-ferrous metals used in cartridge cases, or the nitrates for explosives, from their ordinary commercial employment. Even the main organs of the battleship will be the same as those of a merchant ship; the propelling machinery is the same, and most of the manufacturing processes for the guns can be carried out on " commercial " machinery. Manufacturing processes in a motor works can be utilised to a very large extent in making tanks and aircraft. " Lethal substances " may easily be made from organic and heavy chemicals with the normal equipment of any chemical works, and the conversion of German dye factories into poison-gas plants was said to be " the work of only a few hours " during the war. A paper-making factory and a bakery use similar machinery to that needed for works manufacturing cordite; and the semi-finished materials used in the making of artificial silk, cellulose paint, and photographic films, are also similar

[1] In reply to a questionnaire, the British Government stated that " there are no private undertakings in the United Kingdom which can strictly be described as engaged chiefly or largely in armament manufacture " (cf. LEAGUE OF NATIONS: CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS: *Report of Committee for Regulation of Armaments Trade.* Conf. D. 160, 1933). There are many instances of United States armament firms also manufacturing washing machines and electric refrigerators, and of Italian armament firms producing also agricultural machinery and locomotives.

[2] The special requirements are mainly of " finish ". Cf. UNITED STATES: *Senate Enquiry into the Munitions Industry, 74th Congress, Report,* Part 17, p. 4336. " Both guns and recoil mechanisms are machine-finished with a nicety unusual in commercial practice . . . the fuse for a shell is as delicate as a watch . . . Cannon powder must be as nearly uniform as it is humanly possible to make it, since even relatively slight variations in quality will cause serious variations in range."

to those needed for the production of cordite. [1] Where industrialisation is being accelerated, as part of a rearmament programme, in countries not naturally suited for it, all these facts may justify a more serious view of the economic problem of diversion (calling for greatly increased investment); but it appears that the technical problem in a developed industrial country has usually been over-emphasised.

### (*b*) "*Economic*" *Diversion*

Quite insufficient attention is given, on the other hand, to the economic problem of diversion. It is not merely a question of setting aside a few factories for the production of guns and battleships, but the adjustment of the entire national economy into a state of preparedness for war and then adjusting it back again if the war scare dies down. [2] Primarily, large productive parts of the working population must be taken from their ordinary tasks to perform warlike manœuvres of no economic value; but even larger parts of the productive equipment must provide the food, clothing, and buildings necessary, with an absolute minimum of imports, for these manœuvres to be carried out. So far then, apart from a relatively few specialised arms factories, the economic system of the rearming countries will go on producing much of what it is already organised to produce, but under increasing difficulties because it must make much of what was formerly imported. In a developed industrial country, it is doubtful whether the difference between "armament equipment" as a whole and ordinary peace-time production is great enough to involve any more serious difficulties than the expected changes of technique and of consumers' tastes in normal times. To this extent, arms expenditure is less "wasteful" than is commonly thought; the soldiers, however unproductive their present occupations, would have to be fed,

[1] ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS: *Minutes of Evidence*, 1935. Vol. 1, pp. 183 and 185. "The range of industries engaged in the production of chemicals which are intermediate for explosives is wide enough to embrace gas-works, coke oven plants, and soap works . . . These industries are not armament industries." See also UNITED STATES: *Senate Enquiry into the Munitions Industry, 74th Congress: Report*, Vol. 1, p. 262, and Part 12, p. 2759; and a speech by Sir H. MENSFORTH, ex-Director of Ordnance Factories, British War Office, before the Conference on Disarmament and Unemployment of the League of Nations Union, 1932.

[2] Thus, shortly stated, rearmament involves exactly the same kind of problem as would be raised by a war in which each combatant country, instead of killing the soldiers or destroying the property of the enemy, should destroy its own property in a very highly organised manner and in the shortest possible time.

clothed, and housed, in any case. Table VIII shows that about three-fourths of a normal defence budget is not spent on " armaments " in the technical sense at all.

TABLE VIII. PERCENTAGE DISTRIBUTION OF TOTAL EXPENDITURES OF CERTAIN POWERS ON AIR, LAND AND SEA FORCES IN 1931 [1]

| Group | Germany | United Kingdom | United States | France | Italy | Japan | Soviet Union | Average [2] |
|---|---|---|---|---|---|---|---|---|
| Pay of personnel | 42.5 | 44.4 | 41.8 | 38.6 | 35.8 | 23.0 | 19.2 | 40-50 |
| Maintenance of personnel | 7.3 | 8.0 | 11.9 | 15.4 | 15.3 | 16.4 | 31.3 | |
| Transport | 8.4 | 5.9 | 5.8 | 8.2 | 6.6 | 8.7 | 11.5 | 10 |
| Buildings | 11.7 | 9.1 | 5.7 | 9.1 | 10.9 | 6.2 | 20.6 | 15 |
| War materials | 30.1 | 33.0 | 34.8 | 33.7 | 31.4 | 45.7 | 17.4 | 25-35 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

[1] LEAGUE OF NATIONS : *Report of the Technical Committee of the Conference for the Reduction and Limitation of Armaments.* [Conf. D.158.] 1933. Vol. I, p. 264.

[2] These figures were given by the Committee of Experts on Budgetary Questions to the Preparatory Commission for the Disarmament Conference [C.182.M.69. 1931, page 19] " as an illustration of the order of magnitude of the various elements in a national defence budget ".

The nature and severity of the problem of economic diversion will of course differ to some extent between different countries. The geographical isolation of the United States, for instance, indicates plans for mobilisation of troops and industries, rather than actual diversion. [1] Great Britain, with no large conscript army and a high " industrial potential ", is concentrating on complete and up-to-date armament equipment. Conscript States like France spend more on soldiers' pay. States fearing blockade, like Sweden, will store necessities. [2] But the basic problem is common to all, once the stage of planning is passed—that is, to divert the national resources into the building-up of a greater capacity to produce all the varied needs of

[1] Cf. in UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report,* many references to the American Plan for Industrial Mobilization under Section 5a of the National Defence Act, 1920.

[2] In May 1937 the Swedish National Commission for Economic Preparedness obtained a Parliamentary grant of 70 million crowns to buy abroad and store such vital necessities as might be unavailable in Sweden in time of war. Sir Arthur Salter has suggested that Great Britain should buy and store a year's supply of wheat at an annual cost of £4,000,000.

a nation at war : in short, to " invest " very extensively and very rapidly.

The economic difficulties of diversion due to armaments expenditure are thus commonly misunderstood. During the disarmament discussions, for instance, it was said that " there is no question whatever of disarmament involving a sacrifice or cost " [1] . . . " You do not increase unemployment as a whole by reducing armament expenditure because you give greater facilities for spending on other things. " [2] This view altogether overlooks a fact which cannot be emphasised too strongly, namely that armament manufacture means a " vertical " shift in the structure of production, not a mere sectional change in consumers' demand. The results will depend on a number of factors of which the following are most important.

(1) If rearmament involves monetary inflation, that is, a substantial increase in the effective money supply, over-investment will be greatly accentuated and correspondingly difficult to deal with. Inflation will be necessary if the armament and allied industries have to drive up the prices of labour and resources in order to divert them to their own uses from employment elsewhere. It is true that the boom itself may provide some " real " savings [3]—if the present very rapid rise in consumption is not maintained [4] ; further, resources may be set free by the expiration of the " natural " recovery. Building plans in England, for instance, are now falling off because of the cessation of demand [5] ; in place of house mortgages the building societies, savings banks, and insurance companies might of course substitute Government securities sold to finance armaments. But house building is also falling off because of the rise in interest rates—itself a sign of competition for the available supplies of capital. And to judge from the building-trade complaints of competitive bidding for basic materials, it is doubtful whether the decline in building will be so marked as to set free all the resources at the time and in the form required.

---

[1] J. C. STAMP : *The Economic Effects of Disarmament*, p. 98.

[2] Cf. LEAGUE OF NATIONS UNION : Sir Arthur Salter's speech in *Report of the Conference on Disarmament and Unemployment*, London, 1932.

[3] Cf. J. M. KEYNES : in *The Times*, 11 March 1937.

[4] For statistical evidence on this, cf. Colin CLARK : *National Income and Outlay*, p. 253.

[5] The Ministry of Labour reported £9,015,200 of building plans approved for May 1937, as compared with £12,476,600 for May 1936. But these figures exclude London, the rural areas, and Government contracts.

Alternatively, resources may be borrowed from abroad without inflation or any immediate diversion problem at all. The direct import of armaments on a sufficient scale is not feasible for the larger countries. They may, however, relieve shortages of raw materials and consumption goods at home by borrowing to a limited extent through Exchange Funds. Home balances acquired by foreigners through the operation of such Funds might be converted into medium or long-term securities issued to pay for armaments if the terms were attractive enough ; or alternatively the Funds might sell a part of their foreign holdings to finance essential imports. [1] Obviously the scope of such operations is limited. On the whole, in view of the present large budgetary cost of rearmament, its present rising trend and unpredictable limits, the great speed thought necessary, the advanced stage of recovery already reached in 1935, and the necessity for low money rates and cheap Government financing at least to maintain appearances, it is difficult to see how a large measure of general inflation can be avoided. The resulting danger suggested both by history and theory is that this will cause excessive investment ; and that, after the point of full employment has been passed, it will be necessary to maintain resources in the capital-goods industries against the pull of increasing consumer expenditure by more and more inflation. In default of this, contraction of the heavy industries and a consequent rise in unemployment and severe checks to general business activity may be expected.

(2) If the terms of contracts allow for prices high enough to cover amortisation quotas, over-investment can be liquidated harmlessly. This is in fact customary [2], though the amount of amortisation provision can be decided only in the vaguest way, allegedly over-generous in America and inadequate in England. [3]

---

[1] Cf. " Armament Finance " in *Monthly Bulletin of the London and Cambridge Economic Service*, 23 March 1937.

[2] Cf. UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report*, Part 15, Exhibit A, p. 3800 (adjusted compensation contract). Other methods of compensation may be used. The British Government has paid direct subsidies to help meet the maintenance charges on idle plant—i.e., in 1928 a payment of £90,000 was made to five armour-plate concerns for this purpose. In 1934 the Government paid £5,000 to the English Steel Corporation for the reconditioning of the Cyclops Works, and £1,000 a year is paid for their maintenance. Cf. ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS : *Minutes of Evidence*, 1935. Vol. 1, p. 174, and Vol. 2, p. 273.

[3] Cf. UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report*, Vol. 5, pp. 30-36 ; and sections on " Cost Padding ", pp. 85 *et seq.* It is said that certain British steel firms are reluctant to undertake new investment in default of adequate amortisation payments (*The Statist*, 3 July 1937).

In the most favourable cases, over-built equipment can be discarded without loss to armament industries; but the secondary industries of the rest of the economy which are now being piled up in support of the armament factories to supply raw materials, consumption goods, and semi-finished goods, in appropriate quantities, will pay the usual penalty. And there are no amortisation quotas available for the skilled workmen who will be discarded on the completion of the contracts.

(3) If the rate of obsolescence in defence equipment is high enough, replacement demand may at least keep much of the new machinery in operation once the new investment has been completed. Obsolescence is known to be much speedier than before the war, because the rate of technical progress has increased considerably [1], particularly in aircraft, where the latest type of medium bombing aeroplane in England, for instance, is said to be put out of commission after two years. But exact figures on this point are lacking, for obvious reasons. There is no general rate of technical progress for each defence arm known (each country keeping its own developments secret) and the scrapping of old equipment depends much on budget conditions and the international situation at a given time, with the proviso that an improvement in the international situation might slow up rearmament, reveal over-investment, and produce depressing reactions on the budgets of the rearming countries. In naval armaments, for instance, according to the Treaty for the Limitation of Naval Armament [2] (Part 1, Art. 1, para. C.), capital ships are deemed " over-age " after 26 years, aircraft carriers after 20 years, light surface vessels after 16-20 years, and submarines after 13 years. But among many obvious objections to this criterion, the fact that Governments continue (partly for financial reasons) to retain many over-age vessels is decisive. The " wear and tear " of arms equipment in peace time is probably negligible as a source of outside employment, as the defence services now employ normally much of the necessary trained personnel, and running repairs, e.g. to heavy-gun barrels after their normal firing life, can be carried out in State arsenals. All that can safely be said is that the higher rate of investment due to rearmament can partially be supported only

[1] Some evidence of this is to be found in the large sums devoted to technical research. In England, about 20 per cent. of the estimates for " technical and warlike stores " is spent on experiment and research. Cf. ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS : *Minutes of Evidence*, 1935. Vol. 2, p. 94.

[2] London, 25 March 1936.

by a very high rate of technical obsolescence and the general decision to take advantage of it, which in turn is contingent upon a steady worsening of the international situation.

### (c) *The Budget Problem*

The other great problem of rearmament, that of levying on the population for the cost, is being tackled in many different ways. By no means all of the expenditure goes through a defence budget, and much of it does not appear in the Government accounts at all. The policy of national self-sufficiency in order to prepare for war, for example, takes many forms. The recent drives to collect scrap metal and rags in several countries seem unexceptionable and nearly costless ; but the local production of foodstuffs and raw materials which could be imported more cheaply may involve both budgetary costs and disguised levies on the consumer. Recent statistics of wheat imports in certain European countries illustrate the lengths to which such a policy may go.

TABLE IX. QUANTUM MOVEMENT OF IMPORTS OF WHEAT AND WHEAT FLOUR INTO CERTAIN COUNTRIES [1]

*(Thousand metric tons)*

| Country | Average 1925-29 | 1932 | 1935 | 1936 |
|---|---|---|---|---|
| United Kingdom | 5,561 | 5,559 | 5,471 | 5,488 |
| France : From French oversea territories | 250 | 633 | 498 | 376 |
| From other countries | 1,004 | 1,313 | 742 [2] | 272 [2] |
| Germany | 2,066 | 537 | 133 | 12 [2] |
| Italy | 2,186 | 889 | 278 | 333 |
| Poland | 147 | 68 [2] | 157 [2] | 207 [2] |
| Czechoslovakia | 500 | 371 | 96 | 32 [2] |

[1] League of Nations : *Review of World Trade*, 1937.
[2] Exports.

A few calculations of the costs of self-sufficiency in different countries are available. In England, Lord Astor stated in 1936 that it cost £7,000,000 a year to raise the national wheat production from 16 per cent. to 24 per cent. of consumption ; but more adequate military preparation was not the sole end in view. In Germany, where for geographical reasons self-

sufficiency is much more important from the military point of view, 1,000 million marks is said to have been spent on the erection of plants for synthetic petroleum and metallurgical products to make good deficiencies in minerals [1], and 1,000 million marks is to be spent on land improvement under the Four-Year Plan of increased self-sufficiency. The products of industries "artificially" created like this require continuous tariff protection in order to assure them a market. The net protection in Germany in favour of home-produced petrol, for instance, is estimated at nearly 350 per cent. *ad valorem* [2]; and since May 1937 rubber imports, hitherto duty free, have been subjected to taxes which have had the effect of practically doubling the price in Germany. The net national burden (apart from transfers) of supplementary acts of policy such as the reduction of retail margins on foodstuffs, the cancellation of agricultural debts, or the forcible maintenance of resources in agriculture [3], is also alleged to be very heavy [4], but is quite incalculable. The main point is that this sort of expenditure need not necessarily involve intractable budget problems, because much of it is financed automatically by various forms of disguised levy throughout the economy, but chiefly by means of higher prices to the consumer.

The direct budgetary problem of rearmament raises a number of questions, of which the following seem most important.

(1) The year 1935 was commonly thought to be a favourable time for rearmament "because we can afford it now". If this means incurring more public debts when business is good, the advice runs counter to that suggested by theoretical analysis and the experience of the past depression, which is that public authorities should reserve their deficits for the depression and pay off loans during the boom. Borrowing in a boom period exaggerates the fluctuation of business and leaves a heritage of debt-service problems for the period of falling revenues and

[1] *The Economist*, 31 July 1937. PRIESTER in *Das deutsche Wirtschaftswunder*, p. 101, gives 1,000 million marks as the sum invested in building up "raw-material industries".

[2] PARKER: "The Economic Outlook of Germany", in *Lloyds Bank Monthly Review*, July 1937.

[3] E.g. the recent Decree forbidding the use of wheat and rye for animal food, forbidding reduction in the acreage allotted to these two crops, and ordering the compulsory delivery to the State distribution organisation of all supplies. The German law forbidding the sale of peasant property similarly immobilises it in present hands without regard to efficiency.

[4] Cf. "Germany under National Socialism", in *The Banker*, Feb. 1937; and TRIVANOVITCH: *op. cit.*

tax yields which the borrowing itself may have helped to produce. On the other hand, the spread of the present American recession in Europe may be halted or reversed by further rearmament borrowing.

(2) The possibility of " making future generations pay " for rearmament by the flotation of loans or otherwise is very limited. Rearmament loans may be described rather as attempts to bind the taxpayers of a future generation to pay the bondholders of a future generation. Direct levies on the real income of the future may be made, however, by consuming capital directly [1], by neglecting to set aside depreciation funds, or by employing savings in armament production which would otherwise have gone into commercial investment. " Natural " capital may be consumed by " wearing out " adult workpeople by long hours in armament factories or by drafting adolescents into them before their education is completed. [2] All these methods were used rather generally in the last war, but it is doubtful how far they could be adopted as a conscious national policy at present.

(3) In the final choice between taxation and loans, the limits of taxable capacity will depend much on whether taxpayers can be convinced that the national security is endangered. Very heavy taxation might in fact be quite effective in the short run ; but in the period during which rearmament is to proceed it would probably damp down business enterprise and delay the programmes. In Great Britain, for instance, it is stated [4] that if the present defence expenditure were all met from revenue an increase of 2s. in the pound in income tax (to 7s. in all) would have been necessary instead of the 6d. actually added apart from the special National Defence Contribution. Large loans, on the other hand, force up the rate of interest, weaken the banking system (already in most countries a large holder of Government securities), and affect the rich less than taxes would [3], besides being suspect during boom times for reasons already mentioned. Loans have strong claims, however, for immediate effectiveness in raising money. Most countries, with these considerations in mind, have decided on a combination

[1] The reduction of fodder imports into Germany, for instance, is said to have led to the slaughter of large numbers of calves, chickens, oxen, sheep, and pigs, as the high price of fodder makes it unprofitable to rear them.

[2] Cf. PIGOU : *Political Economy of War*, p. 73.

[3] F. W. HIRST : letter addressed to *The Times*, 4 Sept. 1937.

[4] PIGOU : *op. cit.*, ch. 8.

of both methods, taking refuge in the doctrine that recent rearmament represents a " capital cost " which may legitimately be met out of loans . The amounts involved are very large in relation to past figures and to present total defence estimates. Under the Defence Loans Act of March 1937, the British Treasury may spend £400,000,000 during the period 1937-1942, the funds being supplied by borrowing. Estimates for 1937-38 in fact include fresh expenditure of approximately £27,000,000 on each of the three defence forces, to be covered by Defence Loan proceeds. In France, capital expenditure has been undertaken from several special Treasury accounts outside the ordinary defence budget. Outlay authorised for defence purposes under the *Programme de Travaux intéressant la Défense Nationale*, the *Installations et Matériel d'Armement*, and the *Fonds d'Armement, d'Outillage et d'Avances sur Travaux*, amounts to 11,751 million francs, all to be covered by the issue of redeemable *rentes* or Treasury bills.[1] The 1937 Finance Act contains large additional credits (not shown in Table I) to be covered by loans, of which those appertaining to national defence amount to 9,500 million francs. The proportion of the defence estimates of Czechoslovakia covered by loans has nearly trebled since 1934 [2], and at the end of 1936 a Three-Year Plan for special undertakings, principally for armaments, was announced, to be financed by loans of 5,000 million crowns in each of the three years 1937-1939. A special National Defence Fund set up in Poland in 1936 provided for credits of 1,000 million zloty to be covered by receipts from foreign loans ; and in Japan, 1,300 million yen of the current Budget of 3,400 million yen is claimed to be the minimum loan issue necessary to finance the deficit. [3] An estimate for Germany [4] suggests that the public works and rearmament programme from 1932-33 to 1936-37 cost about 22,000 million marks (of which 19,000 million marks was for rearmament), and that it was paid for in

[1] Actual expenditure from these accounts amounted to 2,329 million francs in 1934 and 1935. Cf. LEAGUE OF NATIONS : *Armaments Year-Book*, 1937.

[2] Czechoslovak expenditure

| | 1934 | 1935 | 1936 | 1937 |
|---|---|---|---|---|
| | | (Million crowns) | | |
| Defence material and installation (covered by proceeds of loans) | 158.3 | 94.2 | 360.0 | 438.0 |
| Net deficits of military undertakings (covered by proceeds of loans and cash reserves) | 8.0 | 11.0 | 2.8 | 7.7 |
| Total defence expenditure | 2,071.5 | 2,161.5 | 2,317.6 | 2,095.3 |

[3] *The Statist*, 4 Sept. 1937.

[4] TRIVANOVITCH : *op. cit.*, p. 140.

approximately equal proportions from current revenue and borrowing, mainly on short term. Rearmament borrowing forms a large part of the total estimated indebtedness of Germany (about 21,000 million marks), but the total itself is not disproportionate, and large funding operations are now proceeding. [1]

(4) Generally speaking, the difficulties raised by the problem of levying for the cost of rearmament will vary with the degree of Government control over the economic system. In countries where the major movements in the system are no longer left to the relatively free decisions of business men and the consuming public, Governments may to a great extent effectively short-circuit the price mechanism and postpone breakdowns indefinitely. All the belligerents adopted strictly controlled economies during the war; nothing which could be called a slump occurred (was allowed to occur) in any of them. And the means of control are now very much more effective. Given adequate control of the Stock Exchanges, the banking system, and the foreign exchanges, therefore, any breakdown which threatened at one of the usual points (as by a Stock Exchange collapse, a run on the banks, or a flight from the currency) on account of intolerably heavy rearmament taxes, could be postponed for a long time; and by shifting as much as possible of the burden on to the shoulders of those least likely to complain effectively—namely, the consumers [2]—the pressure on profits, which is the fundamental cause of depressions in a free system, could be relieved for a very long time. Conversely, in the absence of rigid Government control, a system where heavier taxation encroached gradually on business profits, and business men were free to move their resources both within and outside the country, would be one much more liable to breakdown. The final question—that of determining the practicable limits of levying for armament expenditure in any particular case—involves the consideration of political imponderables which cannot be handled by economic analysis.

*(To be continued.)*

[1] Direct Government control of the capital market and the discount market greatly facilitate the conversion of the two-thirds of the total indebtedness which is said to consist of short-term debt.

[2] Possibly at a considerable loss. Generally speaking, those receiving under the new dispensation rewards which they thought inadequate might reduce their efforts in proportion, if they could do so with impunity (instead of moving their resources and abilities elsewhere). Those not able to do this would bear most of the burden.

# Home Work in France :
## Its Origin, Evolution, and Future

by

Valentine PAULIN,
*Woman Labour Inspector*

*Home work, the growth of which has been encouraged, in some occupations at least, by rural electrification schemes, raises a whole series of problems bound up in each country with the structure of the economic system and the development of social legislation. These problems are the subject of two conflicting schools of thought, one of which favours the abolition of home work, while the other demands stricter regulation.*

*After tracing the evolution of home work in France from the Middle Ages to the end of the nineteenth century, Miss Paulin attempts in the following article to define the present extent of the different home industries, on the basis of the results of an enquiry which she carried out in 1936. She then describes the characteristic features of the " dispersed-factory " system as it now operates in France, and tries to forecast, with particular reference to recent social reforms, what will happen to this kind of work in the future. Her conclusion is that, while changes are taking place, home work is not likely to disappear or even to decline in the near future, and that regulation is the best solution for the problems involved.*

A STUDY of the problem of home work must begin with a clear definition of terms. In France the terms " home worker " and " craftsman " are frequently employed indiscriminately to denote any manual worker occupied in a family workshop—his home or a building attached to it—where no labour is employed other than that of members of the family (wife, children, relatives, or wards). This use of the terms is confusing, for it makes no distinction between a worker employed by a manufacturer or merchant who provides the

materials, determines the quantity and the quality of the articles to be produced, and is responsible for marketing, and an independent producer working on his own account and for his own customers.

The common mistake of confusing these two types of workers is due to the proximity of their social standing, the similar advantages attached to both types of occupation, and the fact that some of the persons in each are sometimes forced by economic circumstances, such as total or partial unemployment or slack periods, to engage in the other. A dressmaker, for instance, may do ready-made work in the off seasons when there are few orders from customers ; or a cap-maker working at home for an employer may also work on his own account, buying his materials and selling his wares independently.

There is, nevertheless, a profound difference between the two kinds of workers, both from the social and economic and from the legal standpoint. Each class has its own history, and its own interests.

Home workers on their own account are, in fact, *entrepreneurs*, and have the same risks and worries—though in smaller measure—as heads of industrial undertakings ; while those who work for others are in reality, despite their apparent independence, wage earners bound to their employers by regular contracts of service—and contracts whose terms are frequently less favourable than those of workers employed in factories.

Home workers who work for an employer belong to that type of industrial production to which Le Play, in his *Vocabulaire social*, gave the name " collective factories " *(fabriques collectives)* [1], and which Karl Marx [2] called " an outside branch of the factory ", Charles Gide [3] " home manufacture " *(la manufacture à domicile)*, Charles Benoist [4] " the dispersed factory " system *(la fabrique dispersée)*, as contrasted with the " centralised factory " *(fabrique agglomérée)*, where the workers are assembled for their work, and Arthur Fontaine " wage-paid home work " *(l'industrie à domicile salariée)*. It is these workers whose history we propose to study here. They will be referred to as " outside workers ", " dispersed workers ",

[1] Le Play : *Les ouvriers européens*, 2nd edition, Vol. I, p. 456, Paris ; *La réforme sociale en France*, Vol. I, p. 312, Paris, 1865.

[2] Karl Marx : *Capital*, translated by Eden and Cadar Paul, p. 497. London, 1928.

[3] Charles Gide : *Principes d'économie politique*, Part VII, p. 170. Paris, 1903.

[4] Charles Benoist : *L'organisation du travail*, Vol. I, p. 464. Paris, 1905.

" home workers ", and " wage-paid home workers " ; the term " craftsmen " will be restricted, in accordance with the provisions of French legislation for the protection of small independent producers [1], to manual workers engaged in a profession on their own account and not for an employer.

## Origin and Evolution of Home Work

### *The Middle Ages and the Renaissance*

Though our knowledge of industrial organisation before the opening of the Middle Ages is very limited, historians trace back the origin of wage-paid home work in France to the liberation of the serfs and the creation of the communes, in the twelfth century.

The feudal system, in which the institution of serfdom had done away with the class of remunerated workers, had no place for wage-paid home work ; but the reappearance in the twelfth century of a class of freemen opened a way for it. For the time being, however, it remained in an embryonic stage, for the emancipation granted by the charters applied only to individuals and small local groups, and proceeded too slowly to cause any profound modification of the social structure.

It was not till the thirteenth century that the movement of social evolution which led to the complete abolition of serfdom in 1315 [2] became sufficiently general in character to permit any considerable development in the organisation of labour. From this time on, however, wage-paid home work existed to some extent in the large cities ; there is evidence of police measures taken in 1283 with regard to women spinners working at home in Paris [3], and of the distribution of work by master weavers *(grands mestres tissarands)* to smaller craftsmen *(menus mestres tissaranz)* [4], who worked at home and were therefore, in fact, home piece workers.

Home work thus appeared in France as soon as there was any free labour. During the Middle Ages, however, it occupied

[1] Cf. section 1 of the Act of 26 July 1925 respecting the institution of chambers of arts and crafts.

[2] The liberation of the serfs in France was completed by a royal ordinance of Louis X in 1315.

[3] In 1283 the Provost of Paris ordered certain measures to be taken against silk spinners working at home who stole part of the material entrusted to them by the haberdashers for whom they worked. (Cf. Etienne Boileau : *Le registre des métiers*, p. 377. Paris, 1837.)

[4] *Ibid.*, p. 393.

only a small place in the general economic life of the nation. Its restricted importance during this period was due to the fact that paid industrial work hardly existed before the Renaissance. In the urban centres the bad means of communication, which paralysed trade and left only local markets to be supplied, kept industry at the handicraft stage; while in the country each peasant family provided for its needs by industrial transformation of the produce of the land.

During this period, therefore, home work could not develop except in the larger centres. It was not until the rise of trade and the profound economic and social changes which occurred in the fifteenth century that there was any considerable evolution. From this time on, however, home production became increasingly general. This was due to the renewed activity of the fairs, which increased greatly in number and size during the Renaissance period [1], and transformed the local markets into national and international markets. Wares from all the provinces of the country came to Paris, and foreign buyers were common in the fairs of Champagne, Lyons, and Languedoc, where business was very active, the demand often being so great that many craftsmen, unable to keep pace with the orders of their customers, began to buy materials and farm out their work to poorer and less successful colleagues. The latter, by engaging in piece work on behalf of the former, who acted as merchants or masters, became wage-paid home workers. Such was the process by which the system of production at home took form and spread.

This new type of productive activity found ready acceptance by reason of the fact that it involved no change in the craftsman's mode of living. He remained at home; he also retained his connection with his own customers, which enabled him to work on his own account as well as for an employer, either simultaneously or alternately. It is probable that the dispersed factory system would have developed with equal rapidity in town and country had it not encountered, in the urban centres, the hostility of the trade guilds.

Ever since the twelfth century the emancipated workers of the towns and boroughs, struggling for yet greater freedom from their former bonds, had been seeking to organise in their several trades for the purpose of defending their right to work

[1] Under Charles VII, Louis XI, and Charles VIII. the declining fairs were revived, and new fairs established; the Lyons fair dates from 1420.

and their common interests. The first preoccupation of these groups was to ensure the prosperity of their members by limiting competition among them and between them and non-members. For this purpose they made rules imposing a strict limit on the number of assistants that a master might employ [1], and they used the power derived from unity to obtain production and sales monopolies. They justified their possession of these privileges by pointing to the need for protecting the public against fraud and bad workmanship by placing on the market only goods manufactured according to detailed rules.

The enforcement of these rules involved constant supervision by the master of the work of his assistants. Home work, however, could obviously not be supervised in this way [2], and tended to encourage violation both of the rules regulating manufacture and of those limiting the number of assistants to be employed by each master.

From the outset, therefore, the guilds adopted a hostile attitude towards home work. They were not very numerous, however, at the end of the Renaissance period, having been formed in only a few towns—not at all in the country—and for a small number of trades. They were thus not sufficiently powerful to offer much resistance during the fifteenth and sixteenth centuries, and the new system continued to spread, particularly in three branches of the textile industry : spinning, weaving, and lace manufacture (which had recently been introduced into France).

### *From the Renaissance to the Revolution*

The industrial system born of the commercial expansion of the Renaissance developed steadily from the close of that period to the Revolution. Home work might have shared in this development had not certain factors intervened and changed the course of its evolution. Besides the continued hostility of the guilds, to which reference has already been made, two other elements, widely different in character, entered into the situation during the seventeenth and eighteenth centuries : the increasing use of machinery in industry, and the policy

[1] In most guilds a master was forbidden to have more than one or two apprentices. (Cf. Etienne BOILEAU : *op. cit.*)

[2] The rules regarding supervision were strict : a master draper, for instance, was not allowed to employ two workers if their supervision necessitated his crossing the road to go from one to the other. (Cf. Etienne BOILEAU : *op. cit.*, p. 389.)

of the French Government with regard to the organisation of production. The seventeenth century witnessed, in France, the appearance of a movement for the improvement of working tools, and at the same time the beginning of direct and vigorous interference, by a highly centralised Government, in methods of production and in the whole economic life of the country.

From the outset, the mechanisation of production, rudimentary though it was, hindered the development of home work and gave some indication of the effects which might be expected to follow further progress. During the seventeenth century, for instance, the hosiery guild, by making use of knitting machines which took the place of needles, deprived the home workers of part of their trade. [1]

One should be careful, however, not to exaggerate the effect of mechanisation, in its early stages, on the development of home work. On the eve of the Revolution, despite the complaints of the workers [2], mechanisation was still not sufficiently advanced or widespread to cause any very considerable changes in methods of work. [3] The mule jenny, which by reason of its productive capacity and the importance of the spinning industry may be counted among the most revolutionary of all inventions, was not presented to the Academy of Sciences until 1780, nine years before the close of the period here under consideration. Moreover, the new machines were driven either by men or animals, in which case their power was limited, or by water power, in which case they could be installed only in the neighbourhood of rivers.

The influence of the industrial policy of the Government was of far greater importance than that of mechanisation or even that of the trade guilds, which nevertheless had a considerable effect on the evolution of the home work system.

During the seventeenth and part of the eighteenth centuries the trade guilds increased in number and extended their influence into new branches of economic activity, thus restricting the field of free production in which alone, for the reasons

[1] Knitting machines were imported into France by Hundret in 1656.

[2] The lists of demands made to the States-General in 1789 mention the complaints of the workers regarding the competition of machines. (Cf. LEVASSEUR: *Comparaison du travail à la main et à la machine.* Paris, 1900.)

[3] In 1741 Vaucanson had been granted a pension to carry on research with a view to the improvement of industrial machinery, but his inventions, some of which related to agriculture, had had hardly any effect on industry. He had introduced certain changes in the loom, but it was Jacquard, whose tambour frame appeared in 1800, who really transformed it.

already explained, the home work system could develop. They regarded all production carried on without their supervision as a violation of their monopoly rights, waged uninterrupted war on every kind of independent work, and extended their strict control over industry beyond the bounds of their lawful jurisdiction. [1] But it should not be forgotten that the power of the guilds and the strength of their opposition to free labour were in large measure the result of the support given them by the State.

The central Government, which based its policy of commercial expansion on the quality of the goods manufactured in the country, and accepted the principle put forward by the guilds that fraud and bad workmanship could be prevented only by constant supervision of the workers by their masters, did much to promote, during the seventeenth and the first half of the eighteenth centuries, the rise of a large centralised industrial system and the spread of the guilds. [2] Both these tendencies were opposed to home work, which the Government tolerated only in the case of work which could not be organised by guilds or in centralised factories, and prohibited in cases in which it might hinder the development of these methods. [3] The State thus took the side of the guilds in their struggle with the home workers, who were constantly being prosecuted and sentenced in the courts during the seventeenth century.

The situation changed, however, with the advent of economic liberalism in the middle of the eighteenth century, and the State, which had hitherto opposed home work, began to support it. Two important measures were taken which ran counter to the interests of the guilds : an Order issued in 1762 made it lawful for any person, independently of the guilds, to buy and spin textile materials and weave any kind of cloth ; and another Order issued in 1776 freed carders and spinners working

---

[1] In the eighteenth century, for instance, even in regions where there was no guild-mastership, the peasants were sometimes not allowed to engage freely in the spinning and weaving of all yarns and fabrics.

[2] An edict of March 1763 compelled free crafts to organise themselves in guilds.

[3] Colbert had prohibited the making of lace at home in the districts in which he had set up factories for the manufacture of the lace known as *point de France*. The home workers, however, disregarded the prohibition and continued as before, with the result that the factories failed. At Alençon the prohibition of homework provoked a riot ; 8,000 women chased the director of the factory, who had the greatest difficulty in escaping them ; the result was that Colbert had to give in. (Cf. *Correspondance administrative sous Louis XIV*, Paris, 1852, Vol. III : letters of the Intendant Duboulay to Colbert, and of Catherine de la Marcq to Colbert, pp. 746-750 ; and of the Intendant de Fortia to Colbert, pp. 735-738.)

at home from the obligation to observe the police regulations which, though made solely for factory workers, had been forced upon them by the guilds. The importance of this change of policy will be recognised if it is remembered that textile production constituted about three-fifths of the total industrial production of the country [1].

Thus home work, which had been resisted over a long period by powerful forces, was enabled, as a result of the new industrial policy of the Government, to develop in almost complete freedom.

How were wage-paid home workers affected by the various influences just discussed, and what was the course of their evolution in the period between the Renaissance and the Revolution ?

There are no statistics giving either the aggregate volume of home work during the seventeenth and eighteenth centuries or its volume in any industry or region separately. [2] It is therefore not possible to show in figures the development of wage-paid home work from the Renaissance to the Revolution, or the relative importance of the forces which helped or hindered it. The evidence available [3] suffices to show that, at the end of the seventeenth century and the beginning of the eighteenth, wage-paid home work, despite the obstacles in its way (the hostility of the guilds and of the central Government, the rise of industry, and the coming of machinery), had profited considerably by the general industrial expansion and was already very widespread.

The spinning industry was carried on almost exclusively by home workers ; in the country districts of Picardy, Normandy, the Lyonnais, the Central Plateau, and the region of Rheims, there were large numbers of weavers working in their own homes ; knitting was the principal occupation of the villages of Beauce and Picardy. Lace, which was very much in favour at the time, was made almost exclusively by home workers in the towns and countryside of the Paris district, Alençon, Mirecourt, Flanders, Alsace, and Velay. It is said that in Velay no less than 40,000 workers were engaged in the manufacture of the common

---

[1] Enquiry of Tolozan, 1788. (Cf. STATISTIQUE GÉNÉRALE DE LA FRANCE : *Enquête industrielle de 1935*, p. 9.)

[2] Only one set of statistics was made in the seventeenth century, that of the wool industry, compiled in 1669 at the order of Colbert.

[3] This evidence consists principally of administrative correspondence, the reports of the intendants on the districts in their charge, and the records of various writers.

laces alone ; Alençon sold lace of various kinds to a total value of 500,000 francs.

By the end of the eighteenth century, thanks to the liberal measures adopted in 1762 and 1766, home work in spinning, carding, and weaving, either as a permanent and principal occupation or as a seasonal and subsidiary one for small farmers, had spread to almost every part of the country.

Each branch of the textile industry occupied several hundreds of thousands of workers. [1] In the region of Caux, as Arthur Young reports in his *Travels in France*, practically every cottage contained a loom.

In 1789 the lace industry was very flourishing and was carried on exclusively by home workers. In Velay alone there were 70,000 lace workers, part of whose work was exported. The estimated value of the lace manufactured annually in France was 10,000,000 Tours francs.

Certain other industries (metal work, cutlery, nail-making, watchmaking and pin-making) were also carried on by home workers, but it is impossible to ascertain the number of workers they employed.

The rapid expansion of home work is easily explained. In many districts the yield of the soil was very meagre ; there was a flight from the land, due mainly to the poverty of the peasants. [2] The execution of industrial work in addition to agricultural work made it possible for the peasant family to make fuller use of the capacities of all its members ; the shepherdess could spin or embroider while watching the sheep, and the old, no longer capable of heavy work, could also make their contribution to the small family income. By occupying the spare time of agricultural workers, especially during the long winter months of enforced idleness in the mountainous districts, industrial work raised their standard of living to one of relative comfort. [3]

---

[1] According to a statement contained in the demands made by the spinners of Caen to the States-General in 1789, there were 100,000 spinners in Rouen alone. (Quoted by LEVASSEUR : *op. cit.*)

[2] On this subject, see VAUBAN : *Projet d'une dime royale*, chap. II, 1707 ; LA BRUYÈRE ; etc.

[3] The Intendant Duboulay-Favier, writing to Colbert in September 1665 on the subject of lace manufacture, said :

" I can assure you that there are to-day over 8,000 workers in Alençon, Sees, Argentan, Falaise, and the neighbouring parishes, and that the occupation has even spread as far as Freynay, Beaumont, Menard, and the parishes around the Maine country. It is manna and benediction from heaven, for its extension throughout the country is permitting even little children of seven years to earn their

Home workers who lived exclusively from the exercise of their crafts enjoyed a privileged position, as compared with other workers, which would alone suffice to explain the extent of home work at the end of the eighteenth century. Since the Middle Ages the dependence of factory workers on their masters had become more and more marked. As the power of the guilds became established, their rules grew stricter ; the hours of work were frequently excessive [1], involving virtual slavery. From the seventeenth century onward, moreover, the Government, apprehensive on account of the strength which these workers derived from being grouped together, imposed on them (but not on home workers) police regulations of an extreme severity. [2]

The home worker, on the other hand, was free as regards the organisation of his work and the length of his hours, and was subject neither to the control of the guilds nor to the regulations of the public authorities. Unquestionably, his position had great advantages over that of the factory worker.

### *The Nineteenth Century*

The Revolution marks an important stage in the history of the working class in general and of home workers in particular. It based the industrial organisation of France, which had hitherto been founded upon privileges and monopolies, on the new principle of liberty. The freedom of work which in the eighteenth century had been granted only to rural and urban textile workers not comprised within the guild system was extended, by the Revolution, to the whole working population. Privileges were abolished and the guilds dissolved, women were admitted to the free exercise of trades, workers could be

---

living, and others to support their fathers, mothers, and families. Old men work at it and it pays them, but the main thing is that in all the parishes it is only by this means that taxes are paid." (Cf. *Correspondance administrative sous Louis XIV*, *op. cit.*, p. 748.)

In 1776, the Vicar of Issy l'Evèque, in a letter imploring the States-General to send four women of his parish to learn to spin at the Dijon school of spinning, explains that "the parish contains a large number of families who are obliged to live on public charity, and whose poverty is due to the impossibility of giving them constant employment, especially for the wouenfolk and during the winter months." (Cf. *Archives départementales de la Côte-d'Or*, C. 3718.)

Examples of this kind could be multiplied.

[1] The hours reached 14, 16, and even 18, per day. (Cf. J. GODART : *L'ouvrier en soie*, pp. 136-137. Paris, 1899.

[2] Factory workers were subject to very strict regulations, drawn up first by the guilds and later by the Government. Police measures relating to these workers were introduced in particular by the Letters Patent of 1749.

employed either in the factories of their employers or in their own homes; the individual could choose whether he would be a factory worker, a journeyman working with a craftsman, or a wage-paid home worker.

There is no doubt that home work profited, at the beginning of the nineteenth century, from the possibilities of expansion that were thus offered to it, and that it occupied a large proportion of the total number of industrial workers. The mechanical inventions of the end of the preceding century began to be used increasingly, but the freedom of negotiation between master and man, from which an improvement of conditions of factory employment had been expected, was daily shown to be an illusion. Under the spur of competition, the employers, in order to reduce their costs of production and amortise their expensive plant as quickly as possible, exploited the weakness of the workers, who were handicapped by the necessity of earning their daily bread. Hours of work were extended [1], and the customary and legal rest imposed, under the *ancien régime*, on Sundays and public holidays [2], was abolished. In comparison with the ordinary factory worker, the wage-paid home worker continued as in the past to enjoy real independence, and thus remained in a privileged position. This accounts for the spread of home work after the Revolution.

The movement of expansion did not continue much beyond the first third of the nineteenth century, however. From the beginning of the industrial revolution, home work began to recede. The industrial use of the steam engine invented by Watt in 1780, which was the cause of this revolution, and the consequent development of machinery led to the concentration of industry and discouraged the dispersed-factory system. The price and size of the steam engine and the powerful machinery driven by it, the technical knowledge required for their management, and the scale of their output, made it impossible for the isolated worker to use them. Furthermore, the use of efficient mechanically-driven machinery, by reducing the cost of production of manufactured goods, forced down the wages of the home workers manufacturing the same goods by hand, and led them to abandon this type of work. As we

[1] According to VILLERMÉ, actual daily hours of work at the time when his study was made varied between 13 and 13½. (Cf. *Tableau de l'état physique et moral des ouvriers*, 1840.)

[2] VAUBAN, in his *Projet de dime royale* (1707) speaks of 90 compulsory days of rest in the year—52 Sundays and 38 public holidays.

have seen in tracing the development of the dispersed-factory system, the worker, in obedience to a sort of natural law, always seeks the kind of work which will assure him the best conditions of life.

No employment statistics exist to show the evolution of home work between 1830 and 1900, but if reference is made on the one hand to the statistics of steam engines [1], and on the other to the writings of contemporary economists [2], it will be seen that, as the transformation of French industry proceeded, home work became less and less productive and tended to disappear, vanishing altogether in those trades in which the machine replaced handwork most advantageously.

By the middle of the nineteenth century, therefore, hand spinning and the complementary occupations of cotton-picking, wool-combing, and winding, which had previously occupied hundreds of thousands of home workers of both sexes, had practically disappeared. Spinners, who in 1815 had earned between 60 and 75 centimes daily, rarely received more than 15 or 20 centimes in 1848. In 1871 Jules Simon wrote : " A woman whose only source of income is her spinning will not earn the price of a crust of bread." [3]

At this time, the mule jenny, the spinning machine then in current use, was already working 200 spindles and producing as much as 500 workers could produce in a day, while the combing machine handled material with 50 times the rapidity of a handworker and extracted from it more useable wool than was possible by the manual process.

There can thus be no doubt as to the determining influence of mechanisation on the decline of home work during the nineteenth century. But it is worth noting, in passing, that in the industries in which motive power afforded only a small saving in the employment of labour the evolution of industrial organisation was slow. This is true, for instance, of the weaving industry, where the output of the power loom was only about four times that of the hand loom. [4] Although the power loom

[1] According to these statistics there were 15 steam engines in France under the Empire ; 65 in 1820 ; 625 in 1830 ; 2,328 in 1840 ; 27,088 stationary engines in 1869 ; and 66,967 stationary engines in 1904. Steam engines supplied industry with 163,000 horsepower of energy in 1869, and with 1,436,000 in 1899.

[2] Cf. among others the works of VILLERMÉ, AUDIGANNE, J. SIMON, P. LEROY-BEAULIEU, C. BENOIST, and D'HAUSSONVILLE.

[3] Cf. J. SIMON : *L'ouvrière*, p. 203. Paris, 1871.

[4] This ratio changed but little in the course of the nineteenth century. The Northrop loom, with its high productive capacity, did not appear until 1900, and even then was suitable only for certain textiles.

was in use as early as 1820, there were still, in 1873, nearly three times as many hand looms as power looms [1]; while power looms were employed only in factories, hand looms were worked almost exclusively by craftsmen or home workers. In the sewing industry too, machinery was unable to replace hand work in every department. Despite the competition of the sewing machine, [2] which required in 1873 (according to Jules Simon) two-thirds, and in 1898 (according to Hayem) one-sixth, of the time needed by a hand worker to execute the same volume of work, there were still large numbers of needlewomen at the end of the nineteenth century. It is true that their wages had been reduced drastically [3], but the contradiction here is only apparent. The significant fact is that the machine was unable, for technical reasons or because machine work lacked strength or finish, to take the place of hand work except in certain branches of the sewing trades. A new industry—ready-made clothing—began in 1879, and absorbed the workers thrown into idleness by the coming of the sewing machine. [4] The reduction of wages to the starvation level was due to other factors than the coming of the machine. A large proportion of the home workers thrown out of employment as a result of the introduction of motive power and machinery in the trades in which they had been engaged—spinners and weavers for instance—took to sewing and embroidery, for which no apprenticeship was required. The employment market in these occupations was thus glutted, and the fall of wages was inevitable. Again, the use of the dispersed-factory system rendered necessary a class of middlemen to distribute the material and collect the finished work, and these made their profits, without any kind of limitation or supervision, at the expense of the already poorly-paid workers. It was this practice which developed into the organised exploitation of the workers which is known as the "sweating system". [5]

The influence of the over-supply of labour on the wages

[1] According to the *Statistique sommaire des industries principales en 1873*, there were in that year 144,485 power looms and 328,339 hand looms.

[2] The sewing machine was invented by Thimonnier in 1830, but did not come into general use until 1846, when it was perfected by Elias Howe.

[3] See the results of the official enquiries carried out at the end of the nineteenth century by the *Statistique générale de la France* and the *Office du travail*.

[4] In 1900, France exported 44,794 quintals of ready-made clothes and underwear. (Cf. *Annuaire de la Statistique de la France*, 1900, p. 252.)

[5] Enquiries carried out in other countries revealed similar conditions in Austria (1900), Germany (1896), Great Britain (1890), New Zealand (1890), and the United States (1893).

of needlewomen working at home may be seen clearly if a comparison is made between the remuneration of skilled workers and that of persons engaged in work requiring no previous technical training. In 1871 a worker engaged in ordinary sewing earned 85 centimes daily (5 centimes per hour in the provinces), while makers of made-to-measure waistcoats and trousers received from 3.50 to 5.50 francs ; and the same difference existed between the remuneration of the two groups in 1900.

What was the extent of wage-paid home work at the end of the nineteenth century ? No general statistics exist on this subject, but a few figures are supplied by local censuses, and by reports of trade union organisations and chambers of commerce in certain industries and in certain defined regions. These data are too incomplete to serve, without entailing serious risk of error, as a basis for a numerical statement of the position of home work in general in France at the turn of the century. [1] Nevertheless, the information which is provided by various sources for this relatively recent period does entitle us to affirm that the number of male wage-paid home workers at the end of the nineteenth century was considerably less than at the end of the eighteenth, and represented only a small fraction of the total working population.

Male home workers still existed, of course, in weaving and hosiery, where, as we have seen, the use of the steam engine and concentration in factories proceeded more slowly than in other occupations. Moreover, these workers had adopted at an early date an improved type of hand loom, and later a power loom driven by a petrol engine [2], and were thus working under material conditions somewhat similar to those of ordinary factory workers. Nevertheless, the census of the working population taken in 1901 [3] showed nearly 200,000 weavers

---

[1] Such statements have nevertheless been attempted. Miss Duchêne estimated the number of home workers at 2,000,000 ; Dr. Marsch, Director of Statistics in the Bank of France, puts it at 250,000 (*Recensement professionnel*, 1901, Vol. I, part 2, p. 112) ; Mr. Fagnot, of the *Office du travail*, gives the figure of 800,000 (*La réglementation du travail en chambre*, a report submitted to the French National Association for the Legal Protection of the Workers). These figures, however, must be regarded as personal estimates ; the disparity between them indicates that they should be accepted with reserve.

[2] The petrol engine, invented in 1872, had come into general use by about 1889. Some home workers also used a compressed-air system for weaving. (Cf. J. GODART : *Le travail à domicile à Lyon*, 1901.)

[3] STATISTIQUE GÉNÉRALE DE LA FRANCE : *Recensement de la population en 1901*, Vol. IV, p. 528.

and hosiers employed in factories ; since we know that in the preceding century these two occupations were carried on almost exclusively by home workers, we may assume that the number of home workers had fallen to a corresponding extent.

The shoemaking, toy-making, watchmaking, locksmith's, woodwork, gem-cutting and tapestry-making trades occupied hardly more than a few tens of thousands of workers, chiefly in the poor and mountainous districts of the Jura, Savoy, and the Central Plateau.

As regards women home workers, although the range of trades in which they could engage profitably had been reduced greatly by the coming of the machine, and despite their condition of permanent poverty, revealed by contemporary enquiries, both public and private [1], their number was still considerable, amounting at least to several hundred thousand. They engaged in embroidery, in the manufacture of underwear and other ready-made clothing, knitted and crocheted hosiery, many kinds of fancy goods, toys, and imitation jewellery, and in subsidiary work such as the packing of finished goods.

Was the machine the sole cause of the decline in the number of male wage-paid home workers at the end of the nineteenth century ? There can be no doubt that the mechanisation of industry was, as we have seen, originally responsible. But it should be noted that the influx of the dispersed workers into the factories, as a result of the low level of wages paid for home work, was stimulated also, at the end of the century, by a considerable improvement of the conditions of factory employment. Protective legislation had abolished some of the more patent abuses in connection with the bargaining relations between employers and workers. Hours of work, and hygiene and safety in workplaces, were regulated by law. The principle of the employer's responsibility for all accidents occurring in connection with work had been recognised. [2] In the eyes of some home workers, who had been compelled by their low wages to work extremely long hours and often under deplorable conditions [3],

[1] See among other data on this subject the enquiries carried out by the *Office du travail* into home work in the underwear trade (1907) and in the artificial flower trade (1913).

[2] See the Acts of 21 March 1841, 9 September 1848, 19 May 1874, 2 November 1892, 13 May 1893, 9 April 1898, and 30 March 1900.

[3] As early as 1840 VILLERMÉ pointed out the influence of wages on the hours of work of home workers ; he found that hours worked daily amounted to 14, 16, and sometimes 17. " In general ", he said, " this toil is in inverse relation to the wages received : the less they earn the longer they work. " *(Tableau de l'état physique et moral des ouvriers*, Vol. II, p. 86.)

factory employment, despite the advantages of home work, seemed the more agreeable system.

The nineteenth century was thus a period of retrogression both in the number and in the condition of home workers.

The dawn of the twentieth century, however, brought them promise of better times. A new driving power—electricity—which had hitherto been confined to the scientific field had recently been adapted to industrial use.[1] This power, which could be transported over long distances, divided, and distributed to the houses of the consumers, lent itself admirably to the use of home workers in their family workshops. Its diffusion seemed to assure the restoration, in a number of industries, of equality in productive capacity as between the centralised and the dispersed factory. Moreover, the new social legislation was a source of great annoyance to many employers, and some of them actually reverted to the system of home work, in which exploitation of the workers was easier than in the centralised factories under the control of inspectors.[2] A halt in the movement of industrial concentration and a new expansion of wage-paid home work seemed so inevitable that economists began to express fears that this system might become a "leak" —to use the expression of Mr. Paul Pic—through which all the benefits conferred on the working class by the new industrial legislation[3] would escape.

## The Present Position of Home Work

Have the prophecies of these economists been fulfilled? What has been the direction and the extent of the evolution of home work since 1900?

As in the case of the earlier periods, no statistics exist upon which even an approximate statement of the extent of home work can be based.

---

[1] The Frankfort Exhibition of 1891 had resulted in general use of the dynamo, and that of 1900 demonstrated the possibility of transmitting and dividing electric current.

[2] From 1898 onward the reports of the labour inspectors mention the transformation of centralised factories into dispersed workshops as a result of the desire of employers to evade social legislation. (Cf. *Bulletin de l'Office du travail*, 1899-1905.)

[3] Méline wrote on this subject: "Of course this new kind of revolution, which may change everything, is still in its embryonic stage; but who can say where it will stop? Nobody can tell what the future may hold in store. Perhaps we shall witness—and sooner than we think—a sudden and complete change in conditions of production. There is no doubt that agriculture would be the first industry to benefit from such a change, since it would be provided with a supply of extra labour . . ." (Cf. *Le retour à la terre*, p. 190. Paris, 1906.)

The census of workers by occupational groups, published annually by the Ministry of Labour and distinguishing between factory workers and home workers, does not cover all industrial establishments, but only those which have been inspected during the year.

Nor does the five-yearly population census carried out by the *Statistique générale de la France* furnish the information needed. In the statistical tables showing the classification of the working population, home workers, independent craftsmen, and workers who do not state the name of the firm employing them, are thrown together and termed " isolated workers ". Moreover, close examination of the figures for this class of " isolated workers " in the different industries shows that some of the totals must be regarded as much too small. It is impossible to consider the aggregate figure given for " isolated workers " in the transformation industries (which are the only industries occupying home workers) as the maximum number of actual home workers.

Examples which can be taken from the statistical results of the 1931 census are convincing on this point. According to the statistics, not a single " isolated worker " was engaged in the ready-made men's wear and tailoring trades in the whole country [1]; actually however, tailors get most of their jackets, overcoats, trousers, and waistcoats, made by home workers. Again, the statistics for 1931 show, in Haute-Saône, 2,743 " isolated workers " engaged in work belonging to the " lace, embroidery, and light fabrics " industry [2]; the association of employers in embroidery undertakings in Haute-Saône, however, estimated the number of embroidery workers in the department in the same year at 50,000. [3] The statistics give the number of " isolated " silk weavers in Saône-et-Loire as 105 [4], but there were actually about 1,000 of these workers, most of whom earned their principal income in this occupation.

It is easy to account for these disparities. The questions asked on the census forms about the worker's occupation and his home work affect only those home workers who depend

[1] *Enquête annexe du recensement de 1931 : Enquête industrielle*, table I, columns 14 and 15.

[2] *Résultats statistiques du recensement général de la population effectué le 8 mars 1931*, Vol. II, p. 75.

[3] R. Bolle : " Dentelles et broderies en Haute-Saône ", in *L'Illustration économique et financière*, 1932, p. 47.

[4] *Résultats statistiques du recensement général de la population effectué le 8 mars 1931*, Vol. II, p. 103.

entirely on their work for their livelihood, and it is difficult to understand whether they refer to piece workers or to wage-paid home workers. There is no doubt, also, that many home workers refrain from making statements which might reveal to the authorities their sources of income. Some home workers, for instance, who engage at the same time in another occupation such as farming, declare only the occupation which brings them the least income and the particulars of which are easiest to conceal—in other words, their secondary occupation. Married women, and girls living with their families and working at home, generally put themselves down as having no occupation.

Not only do the statistics fail to show the number of home workers during the present century ; they shed no light on the changes in the organisation of this type of work. Attempts have been made to investigate this subject, but the results are not such as to yield reliable conclusions. This being so, direct reference will here be made, in answering the questions formulated above, to all sources capable of supplying us with information, not as to the exact number of outside workers (for such information could be obtained only from a census of establishments), but as to the nature and form of work done at home, its present extent as compared with its extent in 1900, and the causes of the evolution that has taken place.

Our enquiry, carried out in 1936 and concluded at the beginning of 1937, was based on consultation with labour inspectors, agricultural engineers, bodies like the chambers of commerce, chambers of arts and crafts, employment exchanges, and trade associations able to furnish useful information, a number of particularly well-informed persons, and certain distributors of electricity. It was supplemented by a study of various administrative and private documents, and by the personal experience of the writer, which covers several departments.

A summary of the conclusions reached is given below.

### *Manufacture of Clothing and Cloth Articles*

The manufacture of men's and women's ready-made clothes, underwear, etc., still occupies a large number of women home workers engaged either in making the entire article (by machine or by hand) or, when the mechanical part of the work is done in a factory, in so-called finishing work executed by hand

(sewing on buttons, ironing down seams, etc.). The execution at home of the mechanical part of the manufacture of ready-made clothing is particularly common in the underwear and women's and children's clothing trades, for which machines of the power commonly employed in private houses are sufficient, and for which it is therefore easy to find workers. In some centres, the manufacture of certain articles (corsets, gloves, etc.) requiring the use of special sewing machines also occupies large numbers of outside workers; in these cases the machine is sometimes lent to the worker by the employer.

As in 1900, there are few firms which do not have their finishing work done by home workers; but the range of activities falling under the head of finishing work is daily diminishing. Some of these activities, such as making button holes and finishing hems, which at the end of the nineteenth century were done at home by hand, are to-day nearly always done in factories by special machines. These machines are never entrusted to home workers on account of their cost and the volume of their output. [1]

It cannot be concluded, however, that the total number of women employed at home in finishing work is less to-day than in 1900. The ready-made clothing industry has grown considerably since that date. Exports have risen from 44,794 quintals in 1899 to 53,336 quintals in 1934, while in the home market ready-made clothes are replacing made-to-measure clothes increasingly. The extension of this industry, therefore, sets off to some extent—exactly to what extent it is impossible to say owing to the large number of ready-made clothes establishments, their dispersal, and the great differences between the numbers of home workers that they employ (varying between 1 and 1,000)—the diminution in the number of home workers caused by mechanisation.

Men's made-to-measure clothing is still, as in 1900, manufactured by outside workers—trousers and waistcoats by women, and jackets and overcoats usually by men. The competition of ready-made tailoring, however, has affected this industry considerably, and the amount of home work involved in it has declined in proportion to its general decline.

Women's made-to-measure clothing, on the other hand, is rarely manufactured by outside workers.

[1] A button hole making machine, for instance, can make button holes, in 200 jackets in 8 hours. Apart from the cost of transport, there would not be room in small dwellings to handle such large quantities of work at one time.

The fur industry has occupied an increasing number of home workers, especially men, during the last few years. In France skilled workers in fur are for the most part aliens, and many of these workers, in order to evade the measures taken recently, in view of the economic depression and the prevalence of unemployment, to restrict the employment of foreign workers [1], have taken to working in their homes rather than return to their own countries. This has happened especially in the large towns. The total number of home workers in the fur industry may be estimated at several thousand.

Various other kinds of work connected with textiles (the manufacture of furniture, sacks, canvas covers, etc.) still occupy home workers. Here too, however, certain groups of hand workers have been deprived of their occupations by the coming of machinery : sack repairing, for instance, is now nearly always done by machine in factories instead of by hand in the homes of workers.

To sum up, it may be said that the vast majority (certainly several hundred thousand) of the women home workers of the present day, as well as tens of thousands of men home workers, are employed in the manufacture of clothes and cloth articles of various kinds.

Although this much is clear, however, it is difficult to trace the evolution of this branch of home work since the beginning of the century. We do not know its exact volume in 1900, nor can we deduce, from the fall shown by the statistics in the total number of workers in the clothing industry, a corresponding fall in the number of dispersed workers. The total decline is due not only to economies effected in factory employment by the mechanisation and the organisation of factory work, but also to the progressive substitution of ready-made for made-to-measure clothing. This change unquestionably results in a saving in the employment of workshop labour. But the made-to-measure clothing industry, as we have already seen, employs few or no outside workers, so that its decline cannot cause any reduction in the number of these workers.

Further, the fall observed in the number of factory workers may have been compensated, wholly or in part, by a rise in the number of home workers not included in the census figures.

[1] These measures consisted in some cases of withdrawal of the permits of foreign workers and limitation of the percentage of foreign workers to be engaged by any establishment.

In the whole of the branch here under consideration male home workers nearly always depend upon their work for their livelihood ; the home tailor and the furrier, whose trades require long periods of apprenticeship, live on the income derived from their industrial activities. Women home workers, on the other hand, sometimes regard their work, whether it be in ready-made or in made-to-measure clothing, as a subsidiary source of income.

They include married women and women in charge of families with insufficient means from other sources, and women simply desiring to utilise their spare time in such a way as to contribute to the home budget. They belong generally to the working class and to the lower grades of salaried employees.

### *Textiles*

The embroidery, lace and hand-made hosiery industries are still, as in the past, carried on exclusively by home workers. The machine, which imitates the best hand work with an ever-increasing degree of perfection, is coming more and more into use, with the result that the number of workers engaged has fallen markedly since the end of the nineteenth century. The number of lace workers in Velay, which in 1900 was about 60,000, is now only about 25,000. Nevertheless, the total number of home workers in these trades is still considerable ; at the beginning of the present economic depression, in 1930, it was estimated at about 300,000, including 50,000 embroidery workers in Haute-Saône, 30,000 in Vosges, 10,000 in Finistère, 30,000 lace makers in Haute-Loire, and 10,000 in Puy-de-Dôme.

These workers live for the most part in the country, where there are many unmarried women and widows, especially in the poorer districts, who find their chief means of subsistence in hand embroidery and lace and hosiery work, and where large numbers of women and girls engaged principally in agriculture devote their spare time to it. Sometimes home work is done as a means of occupying spare time left by seasonal industrial employment. In Quimper, for instance, between 10,000 and 15,000 women engage in embroidery work during the periods of inactivity of the vegetable and fish canning factories in which they are employed. The class of workers known as "*femmes du monde*"—the term used to designate surreptitious women home workers not belonging to the work-

ing class—has diminished considerably, partly as a result of new openings of employment for women and partly owing to changes in popular standards of respectability. Many girls who at the beginning of the century would have been ashamed openly to take paid employment, and would have tried to earn an income by engaging secretly in home work, are to-day in office employment.

The industries of lace-making, towel-making, and mechanical embroidery, occupy women home workers in the cutting out of lace, the repairing of flaws, and various kinds of finishing work. The number of these workers varies between 10,000 and 15,000 with the fluctuations in the business of the undertakings.

The machine manufacture of hosiery in Troyes, the centre of that industry, occupies only 4,000 home workers, as against 30,000 factory workers; home workers thus constitute about 12 per cent. of the labour in that industry, as compared with 70 per cent. in 1900. The fall has chiefly affected male workers, who are now employed by only two firms. These firms pay their home workers at the same rate as their factory workers, and lend them, when necessary, the sums needed for the purchase of plant, the cost being frequently beyond the means of the workers. The hosiery trade as a whole is largely in the hands of male workers, women being engaged in such occupations as picking up stitches dropped by the machines, preparing the finished article for sale, etc. Apart from this centre of the hosiery industry in Champagne, the only home workers employed by the machine hosiery industry in France are women engaged in knitting cheap cotton socks and stockings and finishing factory-made articles. The dispersal of these workers makes it difficult to estimate their number, but it is probably at least 10,000.

In Normandy, Brittany, and the districts of Rheims and Toulouse, weaving is to-day carried on only in factories. The weaving of lawn and linen still occupies some 2,000 home workers, however, in the Cambrai district, while fancy woollen fabrics for women's wear give employment to 850 home workers in the neighbourhood of St. Quentin, as against 2,500 factory workers. In the Lyons district, according to the loom census taken in 1936 by the Association of Employers in the Silk Industry, there were 7,855 looms worked by home weavers of silk and rayon, as against 49,217 factory looms. The per-

centage of home looms was 13.7 per cent., as compared with 15.6 per cent. in 1924. [1] There exist no statistics of this kind for the period previous to 1924, but it may be supposed, on the basis of the information supplied by various sources, that, as a result of rural electrification, home weaving in silk increased from 1900 to 1914, and reached its zenith in that year.

In the manufacture of ribbon and elastic fabrics—which is the speciality of the St. Etienne district—home work is still common. The number of looms worked at home in 1936 was about 12,000, as against 2,000 in the factories. There has been little change in the figures for this industry during the present century.

In the whole of France, weaving does not occupy more than about 20,000 home workers, or 6 per cent. of the total number of workers engaged in weaving. According to the census of the active population, there were 301,000 weavers employed in factories in 1931, showing an increase of 100,000 since 1900. It may be assumed that most of these new factory workers were recruited from the ranks of the home workers.

In the Nord, home weaving occupies chiefly male workers, and constitutes their principal occupation. The weaving of silk fabrics and ribbons, however, occupies equal numbers of male and female workers, for some of whom it constitutes their principal occupation, while for others it provides only a subsidiary income. In some districts, chiefly the mountainous regions, the weavers are small farmers unable to live on the produce of their land alone and engaging in weaving as a secondary occupation.

The use of the power loom with an electric motor has become common among home workers. The improved hand loom is no longer used, save by a few old workers and in cases in which technical requirements necessitate it (in the Department of the Aisne, for instance, out of 850 home workers engaged in the weaving of fancy fabrics, 400 are at present using hand looms in response to the requirements of fashion).

It should be noted that home weaving has remained stationary, or declined but little, during the present century in those regions where electrical energy was adopted in the first years of the century as the driving power for the looms.

[1] According to the census carried out in 1924 by the Association of Employers in the Silk Industry, there were at that time 8,214 home looms in a total of 52,585.

### *Watchmaking*

The watchmaking industry is carried on less and less by home workers. In Doubs, half of the work of assembling watches, formerly performed by home workers, is now carried out in factories. The work is still done entirely by hand, but while the home worker assembles the whole watch himself, the factory worker handles only certain parts.

In Savoy, where 4,000 workers were engaged in the manufacture of parts at the beginning of the twentieth century, home work has disappeared except in the manufacture of sprocket wheels and shafts for winders, carried on in turning shops. The cutting of small machine parts at home, for which watchmaking workers had been trained through experience in their own industry, provided, from about 1915 onwards, alternative employment to home workers no longer wanted in that branch. But the number of home workers in this occupation is also declining now; the work is done with electrically-driven machinery, but the number of workers is only about 500.

### *Manufacture of Cutlery*

In the manufacture of cutlery, the ratio of home work to factory work has not changed during the present century; in some branches of the industry about 90 per cent. of the workers employed are home workers. The district of Thiers occupies about 3,000 home workers, as against 5,000 factory workers. The machinery used by the home workers is driven by water power or by electricity. The hardening and grinding processes, which are performed by male workers on account of their strenuous nature, occupy about 1,000 persons. Workers of both sexes engage in the polishing, mounting, and shaping, of handles.

With the exception of the mounters, nearly all of whom own small farms, these workers rely on the cutlery industry for their livelihood.

### *The Boot and Shoe Industry*

In the boot and shoe industry, the mounting and finishing processes carried out 30 years ago by hand, and for the most part by male home workers, are now performed almost entirely in separate parts, and by machines in factories.

The stitching of the uppers, on the other hand, for which a special sewing machine is used, is still done to a large extent

by women home workers all over the country. In the town of Fougères about 1,000 of the 6,000 workers employed in the boot and shoe industry are home workers, while at Romans there are about 800 home workers out of a total of 3,000 workers.

The manufacture of slippers still occupies a very large number of women home workers engaged in cutting out the uppers. The manufacture of canvas shoes, on the other hand, which at the beginning of the twentieth century occupied nearly 1,000 dispersed women workers, is now carried on chiefly by machines in factories. There are probably not more than 100 home workers engaged in this work to-day.

### *The Diamond-cutting, Lapidary, Fancy-Goods, Wood-turning and Pipe-making Industries*

These industries are carried on principally in the mountain districts of the Jura. Home work appears to be declining in the diamond-cutting industry, but stationary in the lapidary industry (where it still occupies three times as many workers as the factories), in the fancy-goods industry, in pipe-making (for the rasping and putting processes), and in wood-turning. In a number of districts, particularly in Picardy and Saône-et-Loire, the turning of wood for chair-making is performed by home workers, whose number, in relation to the total number of workers employed in the occupation, is stationary.

The industries just mentioned—with the exception of wood-turning, which is performed exclusively by men—occupy workers of both sexes and constitute in some cases their principal, in others their subsidiary, occupations (agriculture being in the latter case the most common principal occupation).

### *Basketry*

Basket work with rushes is still performed by home workers ; 300 male workers are engaged in this occupation in the district of Fayl Billot. Basket work in rattan cane is now carried on largely in factories.

### *Cane and Straw Seat Plaiting*

This work is still carried on exclusively by hand, by women home workers. The number of these workers cannot be determined exactly owing to the large number of chair factories, but it certainly amounts to several thousand.

### *The Nail-making and Locksmith's Trades*

The Ardennes region, which at the beginning of the century was the centre of the nail-making industry, now occupies not more than about twenty home workers for the manufacture of special articles; the rest of the work is done in factories by highly perfected machines. The centre of the locksmith industry, Vimeu, in the department of the Somme, does not employ more than 150-200 home workers, as compared with 2,500 at the end of the nineteenth century.

### *Other Industries*

Besides the industries already mentioned, many other types of manufacture, all of which cannot be enumerated here, employ women as outside workers. Among these are the funeral-wreath, artificial-flower, toy and paperbag industries. Some of them which in 1900 were carried on entirely by home work are to-day carried on in factories, either wholly or in part. The number of home workers engaged in the manufacture of corks in Lot-et-Garonne fell from 600 in 1922 to 200 in 1928, 50 in 1930, and 10 in 1937, as a result of the progressive replacement of the rasp by fast-working machines.

It is impossible to ascertain the number of home workers in these industries, for the establishments employing them are of widely differing sizes and are scattered over the whole country. It can be asserted, however, that despite the competition of the machine their number is still considerable.

* * *

To sum up, male home work has declined very markedly since the beginning of the twentieth century, but the number of women home workers, though falling, is still large. At the time of our enquiry there were certainly nearly a million women home workers.

The information supplied in the course of our enquiry, and corroborated by our personal experience during a period of some twenty years, reveals, as additional causes of the decline in home work (besides the process of mechanisation already discussed), the progress made in the scientific management of production and, in the case of male home work, the inadequate protection afforded to home workers.

Scientific management, which has developed rapidly in the last fifteen years in a number of industries employing home workers, has contributed to the concentration of industry in factories and discouraged the home-work system. It has done this both through the division of labour, by which each worker deals only with a few parts of the article produced—a system which it has vainly been attempted to introduce in dispersed-factory work—and through the importance which it has lent to the time factor. In the eyes of the more enthusiastic advocates of scientific management, the dispersed-factory system, with its need for extra transport and handling of the goods produced, seems an anachronism.

The insufficiency of the protection afforded to home workers, pointed out to us by both employers' and workers' organisations, has also undoubtedly contributed to the decline in the number of these workers. The regulation of their wages was still limited, at the time of our enquiry, to a few industries employing female home workers [1]; the absence of legal protection has resulted in the wages of home workers frequently being lower than those of factory workers. [2]

Home workers are the first to be affected by the repercussions of economic depressions upon wages, and competition between these workers, too scattered to adopt common measures of defence, contributes to the aggravation of these depressions. Unemployment, partial or total, reaches home workers before factory workers, and they are unable to belong to unemployment insurance funds except under certain conditions. The Act establishing the employer's liability for industrial accidents does not apply to them. The tools and machinery which they are expected to possess represent a capital sum which they have to lay out in advance. In short, their position is inferior to that of factory workers, and it is therefore easily comprehensible that the worker who has to support a family on his income from an industrial occupation abandons home work, despite its attractions, for factory employment.

[1] These industries are enumerated in section 33 of the first part of the Labour Code. The legal provisions governing the wages of female home workers were extended, by a Decree of 25 July 1935, to male and female workers engaged at home in the manufacture of silk and rayon fabrics, but it is not yet possible to ascertain the results of this new measure.

[2] RICOMARD wrote, in 1933, on the subject of the home workers in the hosiery industry in the Department of Aube: "When one sees that a factory worker earns more in eight hours than a piece worker working longer hours at home, one is not surprised at the preference of the workers for factory employment." (Cf. *La Bonneterie à Troyes*, p. 142.)

The inadequacy of the protection afforded to the home worker, his helpless condition compared with that of the factory worker, is regarded as the sole cause of the decline of the dispersed-factory system in the machine-cutting industry, and is one of the principal causes of its decline in the watchmaking, hosiery and weaving industries.

It should be noted, in this connection, that where male home work is still found as a principal occupation the home workers have obtained conditions of employment resembling those enjoyed by factory workers. The home workers of St. Etienne, whose number, as we have already seen [1], has remained much higher than that of the factory workers, have defended their common interests by trade union action ever since 1878, and have obtained uniform wage-rates for home and factory workers, as well as maximum limits to hours of work (enforced by turning off the electric current at certain hours). This last measure serves to defend the worker against himself, by preventing the abuse of excessively long working days and ensuring better distribution of the work in time and among the workers. The hosiery workers of Brulé and Doré, in Aube, also enjoy the same material advantages as factory workers.

The plentiful supply of female home workers in both town and country, which witnesses to the continued liking of women for this type of work, does not disprove the foregoing statement. The health and the family ties of many women are unfavourably affected by factory employment, with its regularity, the fixed duration of its working day, the *tempo* of its methods of production, and the travelling which it involves between home and workplace. Moreover, many single women of all ages [2] live in the country, far from any industrial establishment, and are yet unable to engage in the heavy work of tilling the land; these women must work at home or not at all.

## The Future of Home Work

What will be the future of home work? Will it continue to develop in its present direction?

Since the time of our enquiry, a new factor—an important movement of social reform—has come upon the scene. Before

[1] See above, p. 214.

[2] In 1931 it was found that there were in France 5,684,677 single women of more than 21 years of age, of whom 2,816,325 were widows and 1,443,211 unmarried women over 30 years of age. (Cf. *Résultats statistiques du recensement général de la population effectué le 8 mars 1931*, Vol. I, part II, p. 36.)

an attempt is made to answer the questions just put, therefore, this movement must be reviewed and its influence on the organisation of production studied.

Let us begin with the immediate consequences of the movement. From all over the country reports are coming in from the workers' organisations that home work is experiencing a sudden revival. Establishments which already occupied outside workers are expanding this part of their activity, giving more work to be done outside the factory ; while others, which have hitherto employed none, are beginning to adopt the system. Some firms have even dismounted some of their machine tools and remounted them in the workers' homes.

The fear has been expressed, by certain workers' organisations, that the recrudescence of home work will permit employers to evade the obligations placed on them by the new social legislation [1], the provisions limiting weekly hours of work to forty and introducing holidays with pay being applicable only to factory workers.

There can be no doubt that changes have taken place in the forms of industrial employment. But to what extent, and, assuming that they are really such as the reports suggest, in what sense can they be expected to prove permanent ? It may be asked, in the first place, whether the unrest aroused among the workers as a result of the substitution, by certain establishments, of home for factory worker may not have led them to exaggerate the scale of this process.

The application of the legislation relating to holidays with pay and the forty-hour week has reduced by 24 per cent. the time spent by workers in industrial production. Manufacturers desiring to maintain the former volume of their output are compelled to transform their equipment and employ additional labour, and the solution of the problems involved requires time [2]. In certain industries in which the work can easily be carried on outside the factories, therefore, the extension of

[1] See on this subject a report of Mr. H. BERTRAND, Assistant Secretary of the Clothing Workers' Federation, presented at the congress of the Federation on 17 September 1937 ; a resolution of the Committee of the General Confederation of Labour, 1937 ; and an article by G. GRANDADAM entitled " *Artisanat et travailleurs à domicile* ", in *Les cahiers de l'artisanat*, May 1937.

[2] The increasing of equipment encounters three obstacles : the factories producing the equipment are unable to keep pace with the sudden demand ; certain establishments have not sufficient room to install new machines and new workplaces, and must therefore extend their buildings ; and the transformation of equipment and the extensions involve financial problems for many undertakings.

home work, in which hours are not limited, may be due simply to the employers' desire to maintain their output during the period of adaptation to the new conditions.

It would thus seem too early to deduce conclusions regarding the future developments from the present situation. More reliable estimates could probably be formed from an examination of that part of the social reform carried through 1936 which affects home work and the organisation of production. Some of the reforms in this field are due to the action of trade associations, being enforced by collective agreements regulating conditions of employment in industries in which home work is common—the ready-made clothing, underwear, textile, boot and shoe and cutlery industries, for example. These agreements, concluded by associations comprising home workers only or both home and factory workers in proportions varying with different branches of production and different districts, do not establish uniform conditions for all home workers; some of them may be regarded as complete labour charters, while others simply establish wage rates. Nevertheless, their number [1] and the range of activities which they cover render them, as a whole, very important.

In order to convey some idea of the extent of the reforms effected by collective agreements, it will be sufficient to enumerate, in the order of the frequency with which they arise, the principal questions dealt with [2]: the fixing of minimum hourly and piece rates; equality of remuneration of home and factory workers; compensation of home workers for overhead expenses; application of the Acts relating to social insurance and family allowances; distribution of work during the slack season; fixing of a period of notice of dismissals; compensation for flaws and results of accidents to material in the course of work; introduction of holidays with pay; obligation of manufacturers entrusting work to contractors to obtain from them a written undertaking to respect the minimum-wage provisions contained in collective agreements; hours of work; and protection of the interests of home workers by prohibition of home work by factory workers.

---

[1] The number of collective agreements concluded since June 1936 and relating to home workers is not yet known.

[2] On the contents of collective agreements in general, see Pierre POUILLOT: "Collective Labour Agreements in France", in *International Labour Review*, Vol. XXXVII, No. 1, Jan. 1938.

It should be noted that some of the clauses in the agreements, such as those relating to the relations between manufacturers and contractors and the protection of home workers against competition from factory workers, embody quite new principles.

As well as the collective agreements, the social reforms carried through by the public authorities since June 1936 also affect home work.

Though the two great reforms represented by the forty-hour week and holidays with pay are not applicable to home workers, new legal provisions and regulations concerning conciliation and arbitration, and the Act of 24 June 1936 setting up a new system of collective agreements, affect factory workers and home workers alike. The Collective Agreements Act is of considerable importance from the point of view of home workers : it provides that the conditions of employment laid down in collective agreements satisfying certain conditions may be made compulsory, by Ministerial Order, for all workers and employers in the occupations and regions covered by the agreements.

The compulsory character thus given to the agreements guarantees to home workers, even more than to factory workers, the maintenance of the advantages obtained. It compensates, in part, for the disadvantage of dispersal, which exposes home workers to exploitation through the non-application by their employers of the provisions of agreements.

Home workers may consequently be expected to benefit greatly by the new legislation relating to collective agreements. The compulsory extension of two important agreements affecting these workers—those of the textile industry in South-Eastern France [1] and the leather-glove industry in Isère and Savoy [2]— has already been effected ; other extensions are under consideration.

The question of the application of social legislation as a whole to home workers has been examined by the Superior Labour Council, on the instructions of the Government, and three Bills for the protection of these workers have been placed on the table of the Chamber [3]. These Bills provide for the regulation of hours of work in family workshops, ratification of the international Convention concerning old-age insurance for certain classes of workers including home workers, and penalties for violations of minimum-wage legislation in certain industries.

---

[1] Order of 18 November 1936.

[2] Order of 4 January 1937.

[3] Bills of 1 August 1936, 21 May 1937, and 26 November 1937.

In short, it may be said that the activity of the Government and of the trade unions since June 1936 has done much to improve the conditions of home workers. Steps are being taken to spread more equally the charges on employers of home and factory workers. The difference between the conditions of employment of the two kinds of workers has been reduced, and in some districts and occupations abolished altogether. Further, the public authorities seem determined to take up the regulation of home work.

It is sometimes thought that the development which we have been discussing will lead the employers, deprived of their freedom of bargaining and of the financial advantages which home work offered them, to abandon the dispersed-factory system. Nothing, in our opinion, is less probable. Though regulated and protected, home work will nevertheless continue to possess certain definite advantages : it will, as hitherto, enable the employer to make savings in his overhead expenses for buildings and plant ; and it will enable him to meet fluctuations in demand without causing any apparent unemployment, or accumulating excessive stocks which may ultimately involve him in loss.

Nor do employers engaging home workers always appear to be hostile to regulation. In many cases they expect it to do away with competition in cutting costs of production, based upon the depression of wages and deterioration of the quality of the products (for the one involves the other). It is worth noting, in this connection, that the extension of minimum-wage legislation to the silk and rayon weavers was due to the joint action of workers' and employers' associations ; that the Bill to provide penalties for infringements of the minimum-wage regulations was submitted on the initiative of several employers' associations, including the Association of Manufacturers of Fabrics and Textile Products of St. Etienne, which employs, as we have seen, more home workers than factory workers; and that quite recently the Association of Manufacturers of Cambrics, Lawns, and Handkerchiefs, of the Cambrésis district demanded the extension of the minimum-wage legislation to these occupations. Other examples could be quoted. These associations certainly do not desire the disappearance of home work, but rather organisation with a view to its preservation.

Moreover, the assimilation of the conditions of home workers to those of factory workers, to which both regulations and col-

lective agreements are tending, particularly as regards wages and various financial questions, is such as to lead workers to prefer home work to factory work ; and we have had occasion, in the course of this study, to note the influence of workers' preferences on the organisation of production.

It may thus be concluded that the consequences of the present movement of social reform favour the expansion of home work.

Two factors working in the opposite direction, however, must be noted : machinery and rationalisation. The latter, however, has its limits ; it is not possible to increase indefinitely the rhythm of human exertion. As regards mechanisation, it must be remembered that few attempts have hitherto been made to adapt the machine to isolated work. Moreover, the textile and clothing industries still offer a very wide field of employment to dispersed workers.

In the face of so many factors exerting their several influences on the development of home work, it would not seem wise to risk prophecy of too definite a kind. We shall therefore limit ourselves to the statement that this form of employment is still evolving, that its disappearance is at present unthinkable, and that its further decline is improbable.

## Conclusion

Must it be regretted that home work is not destined to disappear ? We shall not here take up a subject of discussion which is already old. Let it be said simply that, if home work in France has been a source of abuses and suffering, it has also contributed, down the centuries, to the improvement of the lot of many workers. This has been noted repeatedly by different economists [1], and proved by the struggle which has been waged by factory and home workers of different epochs for the maintenance or extension of their right to work at home, as well as

---

[1] Audiganne, in *Les populations ouvrières et les industries de la France dans le mouvement social du XIX^me^ siècle*, writes : " When one passes from the home of the Rouen worker, with its neglected air, to that of the (home) weaver of Flers, one has the impression of being transported from one century or one country to another."

Godart and Bonnevay, in *Le travail à domicile à Lyon* (p. 10), write : " There (at Croix-Rousse) lives a race of workers (home weavers) very different from the mass of their fellows—sober, thoughful, honest, educated, intelligent, and with a plentiful supply of good sense. They owe all these qualities to the organisation of their work."

Quotations of this kind could be multiplied.

by the existence to-day—and this despite the advantages of factory employment—of as many as a million home workers in different parts of the country.

It is for this reason that, as it has come to be seen that home work can be protected and regulated, its abolition, called for by philanthropic societies and certain other bodies [1] at the beginning of the twentieth century, is not desired so widely at the present time. Mr. Bertrand, the Assistant Secretary of the Clothing Workers' Federation, ended his report on home work, presented to the Federation at its congress last September, with the following words : " In conclusion, we consider that the efforts of the Federation should be directed especially to the supervision and regulation of home work, and that all agreements should contain provisions regarding the use of pay-books . . . " [2]

The reports of the unions affiliated to the General Confederation of Labour and the Confederation of Christian Workers, submitted in connection with the enquiry of the Superior Labour Council into home work, also refer to the need for regulation.

The fact is that this regulation, which seemed out of the question forty years ago, when even the desirability of regulation of factory work was contested, seems to-day the most satisfactory solution of the problem of home work. It would make it possible to retain this ancient form of manufacture while suppressing the injustice involved in the withdrawal of part of the working population from the field of public control. It would also neutralise the harmful effect of the workers' dispersal on their conditions of employment, and prevent, by maintaining standard conditions, the depression of those of factory workers.

---

[1] Particularly the *Ligue sociale d'acheteurs*, which recommended to its members establishments selling only the products of factory work.

[2] Cf. also the report of Mr. BONNET, Secretary of the Federation, to the same congress, in which he deals with the subject of home work. (*L'habillement*, August 1937, p. 6, and September 1937, p. 4.)

# REPORTS AND ENQUIRIES

## Rationalisation and the Decasualisation of Dock Labour in the Port of Rotterdam

by

C. Mörzer Bruyns
*Superintending Inspector of Factories (Dock Labour) in the Netherlands*

Reference has often been made to the relation between rationalisation and the employment of casual labour, and it has been suggested that the effect of rationalisation, which enables savings to be made in the employment of permanent staff, has been to encourage the employment of casual labour and so to increase the number of semi-unemployed workers. The statistics of the port of Rotterdam throw an interesting light on the incidence of measures of rationalisation upon an occupation in which casual employment plays an important part all over the world—that of dockers.

The eight-hour day was introduced in the port of Rotterdam by a collective agreement concluded in 1919, and has been a potent factor in the promotion of technical improvements. It has led not only to greatly extended use of mechanical loading and unloading devices (floating cranes, loading platforms, etc.) but also to the renovation and modernisation of existing plant. This applies particularly to piece-goods cranes, not to mention the electric and motor trucks introduced in transport ashore. New sheds were built, working floors improved, and all kinds of technical ameliorations introduced, making for greater ease and speed in the handling of goods. Finally, improvements in the equipment of the vessels using the port contributed to the same result, permitting economy in the employment of labour.

What were the repercussions of these developments on the employment of dock labour ? They may be seen, in the first place, in the statistics published by the State Port Inspection Service. Section 5 of the Dockers Act formerly stipulated that anyone desiring to work as a docker must first obtain an employment card issued by the Inspector, subject to certain conditions, for a small fee ; but these

cards ceased to be compulsory in 1932, and the figures based on them refer only to the years preceding that date.

Another set of relevant statistics is provided by the *Scheepvaart Vereeniging Zuid* (Shipping Association of Rotterdam). This Association, though holding a predominant position in the port, does not comprise all the undertakings engaged in the loading and unloading of vessels. Nevertheless, while the exact number of permanent workers in undertakings not affiliated to the Association cannot be stated, it is so small in relation to the total as to be negligible for our purpose.

A combination of these two sets of figures gives us a first table relating to the dockers employed in the port of Rotterdam. The year 1922 is taken as the starting point because in that year the figures were only very slightly influenced by stoppages of work or other special circumstances. The years 1923-1926, however, are omitted, since the figures for those years might give a false impression owing to the labour disputes of varying extent which marked that period.

TABLE I

| Year | Number of employment cards issued under section 5 of the Dockers Act [1] | Average number of permanent workers per week [2] | Number of workers seeking casual employment as dockers (obtained by subtraction) |
|---|---|---|---|
| 1922 | 10,852 | 4,181 | 6,671 |
| 1927 | 17,221 | 5,026 | 12,195 |
| 1928 | 17,028 | 5,018 | 12,010 |
| 1929 | 16,747 | 5,137 | 11,610 |
| 1930 | 13,994 | 4,975 | 9,019 |
| 1931 | 11,163 | 4,389 | 6,774 |

[1] The figures in this column relate to the whole business of loading and unloading seagoing vessels.

[2] The figures in this column were supplied by the *Scheepvaart Vereeniging Zuid*, which as already stated does not include all the undertakings engaged in loading and unloading ships in the port of Rotterdam.

From 1919 onward, as we have seen, a large number of measures of rationalisation and improvements in methods of work were introduced. What would have been the result if, other circumstances remaining unchanged, these measures had not been taken ? What would have happened to the figures contained in the last column of the above table ?

An answer can be obtained by multiplying the figures of that column for each year by a coefficient obtained by dividing the quantity of goods handled in that year by the quantity of goods handled in the basic year, 1922. The result is shown in column 4 of the following table.

TABLE II

| Year | Quantity of goods loaded and unloaded on sea-going vessels (metric tons) | A<br>Number of workers seeking casual employment (from table I) | B<br>Number of workers who would have been seeking casual employment if there had been no change in methods of loading and unloading since 1922 | Ratio of A to B (percentage) |
|---|---|---|---|---|
| 1922 | 19,499,055 | 6,671 | 6,671 | 1.00 |
| 1927 | 41,344,219 | 12,195 | 14,143 | 0.86 |
| 1928 | 36,147,467 | 12,010 | 12,368 | 0.97 |
| 1929 | 38,453,004 | 11,610 | 13,155 | 0.88 |
| 1930 | 34,702,749 | 9,019 | 11,874 | 0.76 |
| 1931 | 28,394,382 | 6,774 | 9,713 | 0.70 |

This table shows that the number of dockers seeking casual employment has not increased but fallen considerably in relation to the quantity of goods loaded and unloaded. In other words, there has been a decline in casual employment.

Our analysis has hitherto been based on a combination of the statistics of the State Inspection Service and those of the *Scheepvaart Vereeniging Zuid*. The same results, however, are obtained if the figures contained in the annual reports of the *Vereeniging* are taken alone. This method has the advantage of permitting the extension of the period under examination to the year 1936. Table III (p. 229) shows, against the figures for the quantity of goods handled each year, the number of casual workers employed as dockers by the *Scheepvaart Vereeniging Zuid* and the number who would have been employed if there had been no change since 1922 in methods of work. This last series of figures is obtained, as in table II, by multiplying the number of temporary workers in employment each year by a coefficient obtained by dividing the quantity of goods handled in that year by the quantity of goods handled in 1922.

It will be seen that table III, like table II, reveals a considerable decline in casual employment. To what is this decline due ?

It might be suggested that it was caused by the entry of large numbers of temporary workers into permanent employment. But an examination of the annual reports of the *Scheepvaart Vereeniging Zuid* compels us to reject this hypothesis; the average weekly number of permanent workers on the Association's registers was 4,181 in 1922, and in the years 1927-1936 respectively 5,026, 5,018, 5,137, 4,975, 4,389, 3,810, 3,210, 3,116, 2,942, and 2,801. There was thus a marked decline in permanent as well as casual labour.

TABLE III

| Year | Goods loaded and unloaded on sea-going vessels (metric tons) | A<br>Average number of workers employed temporarily as dockers by the *Scheepvaart Vereeniging Zuid* [1] | B<br>Average number of dockers who would have been employed temporarily by the *Vereeniging* if there had been no change since 1922 in methods of handling goods | Ratio of A to B (percentage) |
|---|---|---|---|---|
| 1922 | 19,499,055 | 3,685 | 3,685 | 1.00 |
| 1927 | 41,344,219 | 4,927 | 7,812 | 0.63 |
| 1928 | 36,147,467 | 5,025 | 6,832 | 0.74 |
| 1929 | 38,453,004 | 5,011 | 7,267 | 0.69 |
| 1930 | 34,702,749 | 4,164 | 6,559 | 0.63 |
| 1931 | 28,394,382 | 3,585 | 5,365 | 0.67 |
| 1932 | 20,865,335 | 2,997 | 3,943 | 0.76 |
| 1933 | 23,115,436 | 2,981 | 4,367 | 0.68 |
| 1934 | 27,324,249 | 3,122 | 5,163 | 0.60 |
| 1935 | 28,191,430 | 2,736 | 5,324 | 0.51 |
| 1936 | 33,223,802 | 2,867 | 6,276 | 0.46 |

[1] The considerable difference between the figures in this column and those of the corresponding column of table II is due to the fact that table II includes undertakings not affiliated to the *Scheepvaart Vereeniging Zuid*. The number of workers employed by these undertakings, which often recruit their labour wherever they can, fluctuates much more than in the case of the *Vereeniging*, which has its own employment agencies. It should further be noted that the casual workers covered by table II include workers who are not regularly employed as dockers, such as those employed by undertakings which may be responsible only for the loading or unloading of single vessels. Finally, table III gives average figures, and the total number of workers may actually have been much larger, if many fell out during the year owing to death, sickness, invalidity, dismissal, change of post, etc.

Nor can the decline be explained by an increase in hours of work, for the changes in hours which occurred in the period under review were too slight to affect our conclusions—a fact which makes the decline of casual employment the more remarkable.

Have we been too hasty in drawing conclusions from our statistics ? Have there been changes, of which we have failed to take account in the character of the goods handled during the period ? Has, for instance, the proportion of ore and coal to the total undergone any change ?

In order to reach absolutely reliable conclusions, it would be necessary to classify the goods handled according to their nature, and to obtain figures for each class as regards both the quantity handled and the amount of work involved. A detailed enquiry would

also have to be made into the equipment of the vessels, methods of work, and other factors. Nevertheless, it is possible, even without this information, to formulate reliable conclusions of a general character. Actually, the quantity of ore and coal handled in the years 1922 and 1927-1936 respectively formed 63, 63, 53, 60, 58, 49, 41, 44, 50, 55, and 57, per cent. of the total, which shows that this factor cannot have played a predominant part.

It may therefore be concluded that the decasualisation that has taken place in the port of Rotterdam is a direct consequence of rationalisation.

One of the purposes of rationalisation is to secure a larger output of work with a smaller amount of labour. This purpose has been achieved at Rotterdam. Apart from the permanent workers, who perform the greater part of the work, only a relatively small supply of casual labour is needed. Moreover, the periods of unemployment of these workers are not now long enough to justify their being termed " casual " workers in the strict sense ; they should rather be regarded as semi-permanent workers.

It is a matter for satisfaction that though rationalisation may reduce temporarily the amount of employment available it nevertheless contributes, in the long run, to the reduction of chronic semi-unemployment.

# Factory Inspection in South Africa, 1932-1936

## Introduction

The supervision of factories in South Africa is a function of the Department of Labour. Factory legislation dates from the passage of the Factories Act of 1918. The primary purpose of the Act was to provide machinery for the registration of factories and the regulation of their operation with a view to the welfare and safety of employees, but it also laid down limitations in the matter of hours of work for all employees in factories and provided for the payment of overtime when the prescribed limits were exceeded.

The Act of 1918 did not apply to machinery, the inspection of which was a responsibility of the Department of Mines till 1931. In that year, however, an amending Factories Act was passed transferring from the Department of Mines to the Department of Labour the supervision of all boilers, elevators, and other machinery, used for purposes other than in connection with agriculture, mining, or the manufacture of explosives, and not under the control of the Administration of Railways and Harbours. According to the report of the Chief Inspector

of Factories for 1931, the combination of factory and machinery inspection under single control, which had been advocated for some years, was accomplished without dislocation or inconvenience to the public and resulted in increased administrative efficiency, making it possible to inspect factories in country districts to a greater extent than previously.

The change made by the amendment of 1931 considerably extended the scope of the Factories Act, and the inspectorate became responsible for the supervision of a large amount of machinery and electric apparatus in places not falling within the definition of a factory. The report for 1932 states that as a result of the change the work of administration increased greatly both in volume and in importance and became predominantly of a technical nature.

A further change in the administrative arrangements for the supervision of machinery took place in 1934, when the responsibility for the inspection of agricultural machinery was transferred from the Department of Mines to the Department of Labour. Thus the Factories Division of the latter Department, besides being responsible for the enforcement in factories of the provisions relating to working conditions, welfare, safety, etc., prescribed in the Factories Act, is also responsible for the supervision of all machinery, whether used in factories or elsewhere, except that used in mining or the manufacture of explosives or under the control of the Administration of Railways and Harbours.

## Industrial Background

The industrial depression which developed in South Africa at the close of 1930 and reached its climax in 1931 was still generally acute throughout the whole of 1932. In respect of some factories, indeed, the situation actually became worse and many struggling concerns were forced into liquidation. Others were able to carry on by curtailing operations and reducing their staffs to the minimum. Among the factors responsible for the decline in economic activity, the report for 1932 mentions the restriction of credit facilities by the banking institutions, low commodity prices, the heavy drop in exports to the northern territories, and the diminished buying power of the agricultural population. The year was generally regarded as one of unprecedented contraction in manufactures and industrial operations.

The year 1933 brought an improvement, particularly in the Transvaal, where the bright prospects of the gold-mining industry encouraged an increase in expenditure which stimulated the demand for the products of secondary industries, notably those of the engineering industry, which had been affected severely by the depression of previous years. The majority of industries recorded a steady improvement in business. The building industry, in particular, made rapid progress towards recovery, and likewise the clothing industry. By the end of the year many of the principal factories were approaching their normal output and industries generally showed signs of complete recovery. An exception was the furniture industry, in which, apart

from a few " mass-production " factories, output remained below normal.

The year 1934 witnessed the beginning of a " boom ", which developed further in the years 1935 and 1936. The report for 1934 records a remarkable expansion of existing industries, particularly in the Transvaal. The prosperity of the gold-mining industry was reflected in a large number of buildings erected on the Witwatersrand. The various industries associated with building were exceptionally busy. Similar conditions obtained in the engineering industry, which benefited to a marked degree by the " heavy demands of the mining industry ". Other industries in which recovery was most noticeable were clothing, furniture, leather, printing, and milling.

The report for 1935 records the continuance of similar conditions. " The development of the manufacturing industries of the Union continued on an unprecedented scale throughout the year 1935 and new records were created both with respect to the number of factories in operation and their output. The remarkable expansion of industrial activity on the Witwatersrand was the outstanding feature." The engineering and building industries were again exceptionally active. In the agricultural areas the manufacture of butter and cheese reached record proportions.

The general expansion of industries continued in 1936, the greatest development taking place once more in the Witwatersrand area, where the number of new factories registered exceeded that of any previous year. Notable expansion again took place in the engineering and building industries, and in the printing, furniture, leather, clothing, and jam and fruit canning industries.

A feature of the industrial development of recent years has been the establishment of new industries for the production of various articles, including agricultural implements, gramophones and musical instruments, motor fuel, motor tyres and tubes, batteries, processed glass, electric lamp shades, tennis balls, rubber mats, bootlaces, polishes, perfumery, toilet requisites, chains, electric cables, dry cells, printers' ink, etc. Canning of vegetables has begun in the Western Cape Province.

As a result of the activity in the building industry and the consequent heavy demand for cement, some concerns have duplicated their plant and others have carried out building extensions. The manufacture of paint has developed to a marked degree and new factories of modern design have been built in Durban.

The principal motor car assembly works have extended their premises and a large number of substantial modern buildings have been erected for concerns engaged in the repair and reconditioning of motor vehicles, which has become an important branch of the industry.

### Inspection Statistics

The following statistics afford some indication of the activities of the inspectorate during the period under review :

| Item | Year covered by report | | | | |
|---|---|---|---|---|---|
| | 1932 | 1933 | 1934 | 1935 | 1936 |
| Total number of registered factories | 5,361 | 5,324 | 5,375 | 5,496 | 5,545 |
| Inspectors of factories | 7 | 7 | 7 | 7 | 8 |
| Inspectors (engineering) | 7 | 7 | 7 | 8 | 12 |
| Miles travelled by inspectors : | | | | | |
| By rail | 26,099 | 39,350 | 47,500 | 51,523 | 30,044 |
| By road | 75,836 | 70,830 | 82,243 | 101,374 | 122,597 |
| Number of factory inspections | 8,169 | 7,082 | 6,838 | 7,362 | 7,474 |
| Number of machinery inspections | 1,598 | 1,563 | 1,266 | 1,201 | 1,377 |
| Number of elevator inspections | 1,318 | 1,407 | 1,319 | 1,497 | 1,575 |
| Number of boiler inspections | 5,932 | 6,245 | 6,963 | 7,735 | 8,207 |
| Complaints | 36 | 38 | 47 | 79 | 93 |
| Prosecutions | 15 | 26 | 40 | 52 | 78 |
| Convictions | 9 | 22 | 27 | 45 | 69 |
| Accident enquiries | 473 | 502 | 499 | 759 | 839 |
| Notices regarding sanitation, etc.[1] | 3,915 | 3,048 | 2,739 | 4,993 | 6,259 |
| Plans examined | 219 | 370 | 553 | 714 | 859 |

[1] Served on municipal councils and other local authorities.

The comparatively small increase in the number of factories registered is naturally not a true reflection of the growth of the manufacturing industries. Numerous small concerns ceased to fall within the definition of a factory or were closed down, while most of the new factories erected were much larger than those which ceased operations. In several industries an amalgamation of interests took place, resulting in the absorption of small concerns and the concentration of operations in larger premises.

## Administration

In 1932 and 1933 the head of the inspectorate bore the title of Deputy Chief Inspector of Factories. In 1934 the post was converted into that of Chief Inspector of Factories. As from 1932, after the inspection of machinery had become a responsibility of the Factories Division of the Department of Labour, the inspecting staff of the Division has consisted of two classes of inspectors, Inspectors of Factories (Engineering) and Inspectors of Factories. In 1934 five posts of Inspectors of Factories (Engineering) were not filled, owing to the difficulty experienced in obtaining suitable bilingual applicants holding electrical and mechanical certificates of competency. One such post remained unfilled at the end of 1936. Throughout the whole of the period under review, the Divisional Inspectors of Labour at Cape Town and East London carried out factory inspection in combination with their other duties, and until the end of August 1936 the Mines Department Inspector of Machinery at Bloemfontein acted as an Inspector of Factories under a temporary arrangement made between the two Departments.

As regards enforcement of the Act, the report for 1932 states that owing to the depressed state of industry some difficulty was experienced in securing strict compliance, and inspectors exercised their discretion in the direction of leniency, limiting their requirements so far as possible to essential features affecting the health and safety of employees. "In many cases manufacturers have been permitted to continue in temporary occupation of premises which are unsuitable for factory purposes, and in the general administration of the Act the utmost consideration has been shown and every endeavour made to avoid placing a handicap upon any industry during the time of stress, providing reasonable working conditions are maintained." The remaining reports do not comment on the general question of administration. The statistics show, however, a fairly steady increase both in the number of miles travelled by inspectors and in the numbers of prosecutions and convictions throughout the period under review.

### Structural and Hygienic Conditions

Consistent improvement is recorded in the design and construction of factories. Many of the older buildings were modernised, while the new buildings erected for factory purposes were generally designed and built on up-to-date lines. A policy of transferring industries from congested central areas to specially prepared sites on the outskirts of towns was adopted by the larger municipalities. Effective co-operation existed between municipal officials, architects, and departmental inspectors.

All the reports mention the difficulty experienced by the inspectorate in endeavouring to secure a satisfactory standard of sanitation and cleanliness in factories. The report for 1934 spoke of the sanitary arrangements as being generally the most neglected feature of a factory. Improvement has recently been effected by the completion of new sewerage schemes and extensions in the larger towns and by continuous co-operation between the factory inspectors and the local authorities.

Lack of attention to cleanliness and failure to provide for the adequate disposal of refuse are repeatedly the subject of comment. The report for 1936 states: "The reports from various districts indicate that cleanliness and good housekeeping in factories does not receive the attention it deserves. Even when new premises are occupied the opportunity for establishing and maintaining a high standard in this respect is too often neglected and the fact that lack of cleanliness and disorder are usually associated with inefficiency is generally ignored."

Lighting and ventilation of factories were matters of considerable concern to inspectors. In a number of old factories in congested areas it was found impossible to obtain satisfactory lighting conditions and registration of such premises was refused on expiry of the existing certificates. Lightometers for the measurement of light were supplied to inspectors and these instruments proved most valuable as a means of convincing employers that the lighting conditions in their factories were unsatisfactory. The regulations require that the area for the

admission of natural light shall be at least equal to 10 per cent. of the floor area. This proportion was found to be adequate provided the light was uniformly distributed and the windows were kept clean, but if these conditions were not observed it was insufficient. The latest report (1936) states that on the whole there has been considerable improvement in the lighting of factories.

The problem of ventilation was under consideration both generally and in regard to the control of dust and fumes created in various processes. Difficulty was experienced in obtaining satisfactory air circulation owing to the humidity of the atmosphere. In wood-working shops the use of exhaust systems for removing dust produced during sand-papering and other operations increased considerably and was found to have effected a remarkable improvement in the conditions. The subject of air conditioning aroused interest in industrial circles. Several plants were installed, including one costing £4,000 in the works of a prominent newspaper. A leading tobacco company reported that after the provision of air conditioning units in leaf and grading rooms the output of the employees increased by 50 per cent.

### Machinery

The reports show a constant increase in the output of undertakings for the supply of electricity. Since a large proportion of the increased output of electric power was used for industrial purposes, the statistics naturally show a marked increase in the amount of machinery in use. The total number of registered elevators rose from 1,283 in 1932 to 1,729 in 1936; the total number of registered boilers rose from 4,274 to 7,189 during the same period.

### Accidents

The regulations provide that any accident which results in the injured person's being disabled for fourteen days or more must be reported.

The percentage of reported accidents deemed to be the fault of the injured person varied from 16 to 21 during the years under review. As a factor responsible for accidents mention is made of the absorption in industrial occupations of workers who had had no previous experience and were unaccustomed to working with machinery. Many of these workers resumed work after periods of unemployment and were naturally less alert both physically and mentally than trained operatives. The industries grouped under the heading "food" reported the highest number of accidents (64 out of a total of 319) in 1932, but in each of the four succeeding years the highest total was recorded in the engineering industry (146 out of 624 in 1936). Emphasis is laid in the reports on the danger of allowing unskilled persons to be in charge of machinery. It is pointed out that carelessness is a much more frequent cause of accidents than appears from the statistics, as many accidents which, owing to lack of evidence, are classified as due to misadventure would more accurately be attributed to carelessness.

"The necessity for the careful selection and training of machine operators cannot be too strongly impressed on employers." "There is a deplorable lack of discipline and efficient supervision in many establishments where numbers of workmen are employed. Instructions are given in a haphazard manner and comparatively ignorant and untrained persons are employed on duties involving considerable personal risk without their being warned or receiving proper tuition." "Owing to the prosperous industrial conditions which prevailed there was a shortage of trained operatives in many branches and inexperienced workers were engaged, many of whom were ignorant of the dangers inherent in the use of machinery." At the same time, in spite of the larger number of persons employed in the recent years of business prosperity, the percentage of accidents to the total number of employees is reported to have declined from 1934 to 1935 and to have shown practically no change from 1935 to 1936. The number of accidents and of casualties, fatal and non-fatal, is shown in the following table:

| Item | 1932 | 1933 | 1934 | 1935 | 1936 |
|---|---|---|---|---|---|
| Accidents [1] | 319 | 334 | 391 | 574 | 624 |
| Persons killed | 31 | 29 | 46 | 47 | 62 |
| Persons injured | 304 | 312 | 363 | 542 | 574 |

[1] Includes accidents in electric power stations, shops, flats, private houses, etc., as well as in factories.

## Working Conditions

The passage from depression to prosperity is reflected in the reports of the employment situation. In 1932 it was reported that many factories had closed down and others had considerably reduced their staffs or worked short time, but the succeeding years brought a marked change and by 1936 many establishments were working at high pressure.

### *Hours of Work*

The working of short time, which was a feature of the depression years, had practically ceased in 1933, when the normal working week of 48 hours was observed in most factories, while in subsequent years many factories were working overtime, partly as a result of a shortage of labour in certain industries. The report for 1936 indicates that the practice of a five-day working week—the development of which had been noted in previous reports—was being reconsidered by some employers, who were contemplating a reversion to the six-day week. "Although the working of overtime has in some cases become a regular feature, efforts are being made to restrict this as much as possible by

persuading employers to introduce the shift system to meet the needs of increased production. Complaints of excessive overtime are, however, being received in respect of employees in bakeries and creameries and steps are being taken to effect the necessary remedies."

Difficulty was experienced in securing enforcement of the Act in the dairy industry. In consequence of complaints received from workers, an enquiry was made in 1934 into conditions in creameries and cheese factories in the Northern Provinces. This disclosed that in a large number of cases the requirements relating to Sunday work and payment for overtime were disregarded. Prosecutions were instituted and arrears of pay were recovered for employees. The fact that most of the factories in question operate in isolated country areas was found to render effective supervision both difficult and expensive.

Exemptions from the provisions of the Act relating to working hours are granted regularly in seasonal industries such as creameries, fruit and egg packing, and jam making.

The Act provides that the Minister may grant special exception from the prohibition of Sunday work provided the customs or exigencies of the business so require and the exception can be made without injury to the health of the workers concerned. In 1934 there was a decrease both in the number of establishments working on Sundays and in the number of workers, both male and female, concerned. In 1935, though there was a reduction of 166 in the number of establishments authorised to work on Sundays and a reduction of 2,283 in the number of males concerned, there was an increase of 1,529 in the number of females involved. On the other hand, in 1936, while the number of factories working on Sundays increased, and the number of males concerned was 332 more than in 1935, the number of females affected decreased by 1,289.

### *Employment of Women*

Increased employment of women has been a feature of recent industrial development. During the depression it was observed that, partly owing to the continued unemployment among men, the proportion of female workers began to increase, and there was a growing tendency for women to remain in or to return to factory work after marriage. In a large proportion of industrial families the women were the principal wage-earners.

With the advent of recovery, the employment of women continued to extend. In the clothing and textile industries, fruit canning and packing, sweets and biscuit manufacturing, and in laundries, women formed the majority of the labour force. Increased employment of women has been reported in connection with new industries, and several fresh avenues of employment have been opened to women, notably armature winding in the electrical engineering industry. The reports indicate that special care is required on the part of inspectors to secure the observance of the provisions of the Act relating to the employment of women.

### *Employment of Juveniles*

The Act provides that no boy or girl under 16 may be employed in a factory without a medical certificate of physical fitness. Children under 14 may not be employed in any circumstances. On the whole, the tendency disclosed in the reports is towards a decrease in the employment of juveniles. Though a slight increase was recorded in 1935, when 197 certificates were issued, the number of certificates was 195 in 1936, when it was reported that the proportion of juveniles to workers over 16 was lower than in the previous year.

### *Outworkers*

Any occupier of a factory who employs outworkers must keep a record showing the name, address, and workplace, of each outworker, the quantity and description of the work, and the nature and amount of the remuneration. In practice, outwork is generally confined to the garment-making trade. The number of registered outworkers engaged in this trade fell from 618 in 1933 to 589 in 1934 and 510 in 1935 and rose to 587 in 1936.

## WELFARE

### *First Aid*

In every factory in which there are ten or more employees, it is incumbent upon the employer to provide a properly equipped first-aid box in the charge of a competent person. The reports indicate that there was general compliance with this requirement as regards the actual supply of first-aid equipment, though it was not always satisfactorily maintained or stored. Some difficulty was experienced, particularly in the smaller factories and towns, in securing competent persons to take charge of the equipment. The South African Red Cross Society and the St. John's Ambulance Association co-operated with the Department of Labour by organising first-aid classes in various centres. The report for 1936 states: "Many industries lend their active support to these organisations and it is gratifying to note the interest displayed by certain establishments, particularly in the motor industry, in their activities."

### *Industrial Diseases*

Up to 1932, according to the report for that year, factory workers had been "remarkably free from industrial diseases", except for isolated cases of anthrax, lead poisoning, and dermatitis.

An increase in the incidence of anthrax occurred in 1933 in the Midlands area of the Cape Eastern Province. This was attributed to the drought, which so lowered the condition of animals that they were unable to resist infection. Decreases were recorded in subsequent years, a single case being reported in 1936.

The recorded cases of lead poisoning vary from 3 in 1933 to 5 in 1936. In addition, medical examination of a number of men employed

in a motor works revealed in 1935 that 35 per cent. were suffering from incipient plumbism. Precautions were taken immediately to eliminate so far as possible any lead dust which might be in the establishment.

Dermatitis due to handling of fruits was found to have occurred during the fruit packing season in 1933. Two occupational cases of the disease were recorded in 1934, one in the printing industry and the other in a photographic store. A number of cases were investigated in 1935, but difficulty arose in establishing that the disease had been contracted as a result of employment in a factory. There were fewer cases in 1936.

The other industrial diseases mentioned in the reports are arsenical poisoning, of which one case was reported in 1935, and chromium poisoning, of which an alleged occurrence was investigated in the same year.

### *Protective Clothing; Seating Accommodation*

The Act requires that suitable protective clothing be provided for workers handling any substance liable to cause injury to the person or any corrosive substance liable to damage clothing. The reports indicate that in general little difficulty is experienced in securing compliance with this requirement. The same applies to the clause in the Act requiring the provision of seats for women workers whose work is performed standing, in order to enable them to take advantage of any opportunity for resting which may occur.

### *Rest and Cloak Rooms*

The reports record " steady progress " in the provision by employers of rest and cloak rooms for the use of employees, though the report for 1934 mentions the difficulty of convincing some employers of the value of rooms of this kind, particularly since many employees failed to make use of these facilities when they were provided. On the latter point the report for 1936 states : " There is a need for educating the worker to the necessity for a change of environment during rest intervals. No doubt the bareness of the furnishing of some of the rest rooms is a factor which contributes to this disinclination and employers are encouraged to make these rooms as attractive as circumstances permit." The report for 1935 mentions that in certain factories in which the employees had neglected to use the change rooms the occupiers provided individual lockers at or near the actual place of work, while facilities for washing were situated at various spots throughout the works.

### *Recreation Clubs and Hostels*

Some institutions of this kind exist in certain centres, including Cape Town and Port Elizabeth. The report for 1936 states : " The success which has attended the inauguration of some of the older clubs and hostels has resulted in new institutions being established. These fill a definite need in industrial life and their establishment deserves the encouragement and support of the public."

### *Confinement Allowances*

Women are forbidden to work in factories for four weeks before and eight weeks after confinement. During this period of twelve weeks an allowance not exceeding £1 per week is payable, on the report of a factory inspector and provided the Minister is satisfied that the woman worker is solely dependent on her wages and that the father of the child is unable to provide the amount. The statistics are as follows :

| Item | 1932 | 1933 | 1934 | 1935 | 1936 |
|---|---|---|---|---|---|
| Applications received | 551 | 488 | 452 | 456 | No figures |
| Applications granted | 330 | 251 | 242 | 300 | 312 |
| Total sum paid | £2,672 | £1,601 | £1,823 | £2,547 | £2,807 |

# STATISTICS

## Employment and Unemployment

Statistical tables on employment, unemployment, hours of work, wages, and cost of living in different countries are compiled and published at quarterly intervals in this *Review* (in the January, April, July, and October issues). In view, however, of the interest taken in the statistics of employment and unemployment and their frequent changes, the tables on these two subjects are compiled at monthly intervals, and they appear also in the issues of the *Review* intermediate between the quarterly issues. For further information on the scope and method of presentation of these data, reference should be made to the introductory statement given in the quarterly issues.

Tables I and II give statistics on the *general level of employment* and the *general level of unemployment*. As these series purport to measure different aspects of the same phenomenon, the two tables should be read in conjunction. Figures for the different industries or occupations covered by these series are given in the *Year-Book of Labour Statistics*, 1937, which also gives figures for unemployment among males and females where available.

*Employment* (Table I). The employment series relate to persons in employment or to hours worked, and may be classified roughly in two groups: (1) those (the majority) based on employers' returns, indicating changes in the number of workers employed or hours worked in a sample of mainly industrial establishments; they do not furnish information on the absolute extent of employment, and as a rule only *index numbers* are reproduced here; (2) those based on returns of employed members in various schemes of social insurance (usually compulsory) and covering the great majority of the working population; as these series give a more reliable picture of changes in the total level of employment, absolute figures are generally given, as well as index numbers. In the great majority of cases, the figures relate to workers recorded as in employment at a certain date, irrespective of the hours worked per day or per worker, though in some cases they relate to the number of hours worked during a certain period and thus record fluctuations in the *volume* of employment.

Owing to differences in scope and methods of compilation and classification of the various series, international comparisons of the

absolute level of employment and its fluctuations are rarely possible. The chief value of the statistics is in indicating the trend of short-period fluctuations.

*Unemployment* (Table II). The series relate to persons applying for work or recorded as unemployed, and in most cases are incomplete in scope and vary considerably in their representative character: the figures are affected by changes in legislation, in administrative practice, and in the frequency of registration of the unemployed; changes in the amount of " short time ", and other ways of rationing work, also affect the figures; they are also influenced by changes in the population of working age and in the proportion of the population seeking gainful occupation. For these reasons, the figures do not directly show changes in the *time lost* through unemployment.

Their principal value lies in indicating fluctuations from time to time, and only between such movements are international comparisons possible. The various series, however, are not equally sensitive to changes in the labour market, and an equal change in any two series does not necessarily represent a corresponding change in the countries concerned. Percentages are, as a rule, more reliable than absolute numbers as measures of changes in the level of unemployment. The figures of unemployment relate, unless otherwise stated, to wholly unemployed; where available, figures of " partial unemployment " are given, but they are uncertain, incomplete, and based on different definitions, and here also international comparisons are rarely possible.

### Explanation of Signs used in the Tables

The sign * signifies: " no figures exist ".
" — " " figures not yet received ".
" † " " provisional figure ".
" r " " figure revised since the previous issue ".

Figures in thick-faced type: base of the index numbers.

Figures in italics: index numbers with a year other than 1929 as base.

The sign —— between two figures of a series signifies that the former series is replaced by another, or otherwise modified.

## TABLE I. STATISTICS OF EMPLOYMENT[1]

| Date | Germany | | | | Austria | Belgium[2] | Canada[3] | Denmark | |
|---|---|---|---|---|---|---|---|---|---|
| | Sickness insurance statistics | Statistics of establishments[4] | | | Sickness insurance statistics | Unemployment insurance statistics | Statistcis of establishments | Statistics of establishments Total number of hours worked per day[5] | |
| | Number employed | Index of employment (1929) as percentage of possible number of: | | | Number employed | Index (1929) | Index (1926) | Number (thousands) | Index (1931) |
| | | Workers | Man-hours | Salaried employees | | | | | |
| 1927 | * | * | * | * | 1,376,049 | 100.0 | 88.1 | * | * |
| 1928 | 17,436,100 | 76.5 | 104.5 | 100.0 | 1,446,027 | 100.2 | 94.2 | * | * |
| 1929 | 17,595,347 | **100.0** | **100.0** | **100.0** | 1,448,845 | **100.0** | **100.0** | * | * |
| 1930 | 16,408,528 | 86.9 | 83.3 | 94.8 | 1,378,330 | 96.6 | 94.5 | * | * |
| 1931 | 14,336,418 | 72.0 | 66.0 | 83.7 | 1,255,353 | 87.4 | 85.3 | 962 | **100.0** |
| 1932 | 12,517,882 | 59.5 | 52.9 | 69.7 | 1,107,256 | 78.2 | 72.5 | 881 | *91.6* |
| 1933 | 13,015,614 | 65.8 | 60.8 | 68.9 | 1,022,942 | 81.1 | 70.6 | 985 | *102.4* |
| 1934 | 15,040,852 | 83.0 | 79.7 | 77.9 | 1,010,993 | 78.3 | 80.9 | 1,092 | *113.5* |
| 1935 | 15,949,332[6] | 90.8 | 87.0 | 85.5 | 967,330[7] | 79.9 | 83.7 | 1,185 | *123.2* |
| 1936 | 17,105,771 | 98.1 | 96.4 | 93.3 | 935,411 | 85.3 | 87.3 | 1,240 | *128.9* |
| 1937 | 18,402,406 | 106.1† | 106.2† | 101.4† | 975,922 | — | — | 1,283 | *133.4* |
| 1936 Dec. | 16,954,844 | 100.9 | 101.5 | 96.5 | 881,692 | 84.9 | 87.1 | 1,244 | *129.3* |
| 1937 Jan. | 16,599,462 | 98.5 | 95.9 | 97.0 | 866,157 | 85.0 | 87.3 | 1,189 | *123.6* |
| Feb. | 17,014,107 | 98.8 | 97.3 | 97.6 | 877,691 | 86.5 | 86.2 | 1,218[r] | *126.6* |
| March | 17,497,362 | 101.8 | 102.3 | 98.2 | 921,911 | 88.3 | 86.4 | 1,252 | *130.1* |
| April | 18,447,733 | 105.5 | 107.2 | 100.3 | 969,236 | 89.9 | 89.2 | 1,283 | *133.4* |
| May | 18,776,446 | 106.9 | 108.4 | 101.1 | 1,003,492 | 90.0 | 95.9 | 1,335 | *138.8* |
| June | 18,941,252 | 107.9 | 107.0 | 101.9 | 1,022,361 | 90.6 | 99.9 | 1,330 | *138.3* |
| July | 19,094,961 | 108.1 | 105.0 | 102.4 | 1,026,249 | 90.8 | 100.7 | 1,295 | *134.6* |
| Aug. | 19,150,927 | 108.9 | 106.9 | 103.1 | 1,037,181 | 90.2 | 103.4 | 1,317 | *136.9* |
| Sept. | 19,105,121 | 109.4 | 110.3 | 103.5 | 1,038.618 | 90.2 | 105.5 | 1,321 | *137.3* |
| Oct. | 19,128,112 | 110.0 | 111.4 | 103.8 | 1,029,551 | 90.3 | 105.0 | 1,324 | *137.6* |
| Nov. | 18,964,223 | 109.9 | 113.0[r] | 104.0 | 992,347 | — | 102.0† | 1.287 | *133.8* |
| Dec. | 18,109,163 | 107.8† | 109.8† | 104.2† | 926,267 | — | — | 1,245 | *129.4* |
| Persons covered | * | * | * | * | * | 911,762[8] | 1,159,727† | * | * |

| Date | Estonia[9] | United States | | | | | |
|---|---|---|---|---|---|---|---|
| | Statistics of establishments | Statistics of establishments[10] (Manufacturing industries) | | | | | |
| | | Index (1923-1925) | | | | Estimates of: | |
| | Index (1 Jan.1927) | Number employed | | Hours worked | Payrolls | Wage earners employed | Weekly payrolls ($1,000's) |
| | | Un-adjusted | Adjusted | | | | |
| 1927 | **93.0** | 94.5 | * | 95.1 | 93.2 | 8,288,400 | 206,980 |
| 1928 | **98.2** | 94.3 | * | 95.5 | 93.9 | 8,285,800 | 208,334 |
| 1929 | **100.0** | **100.0** | * | **100.0** | **100.0** | 8,785,600 | 221,937 |
| 1930 | **95.8** | 87.2 | * | 80.7 | 81.1 | 7,668,400 | 180,507 |
| 1931 | 88.1[r] | 73.8 | * | 62.9 | 61.8 | 6,484,300 | 137,256 |
| 1932 | **82.7** | 62.6 | * | 46.1 | 42.5 | 5,374,200 | 93,757 |
| 1933 | **84.3** | 68.8 | * | 52.8 | 45.3 | 5,778,400 | 98,623 |
| 1934 | **97.5** | 78.8 | * | 57.7 | 57.6 | 6,605,600 | 126.000 |
| 1935 | **109.7** | 82.1 | * | 63.6 | 65.4 | 6,968.500 | 143,180 |
| 1936 | **126.3** | 87.8 | * | 72.4 | 75.5 | 7,541,800 | 165,699 |
| 1937 | 144.4 | 94.9† | — | — | 89.8† | — | — |
| 1936 Dec. | **127.4** | 93.7 | 94.2 | 81.2 | 87.3 | 8.220,000 | 193,389 |
| 1937 Jan. | **135.4** | 92.2 | 94.4 | 77.0 | 83.1 | 8,082,000 | 184,271 |
| Feb. | **135.1** | 94.6 | 95.2 | 80.6 | 87.8 | 8,291,200 | 194,699 |
| March | **138.6** | 96.6 | 96.4 | 83.6 | 92.7 | 8,467,700 | 205.602 |
| April | **143.9** | 97.5 | 97.0 | 83.1 | 96.2 | 8,553,000 | 213,213 |
| May | **153.8** | 97.7 | 97.6 | 82.1 | 96.4 | 8,566,400 | 213,835 |
| June | **156.2** | 96.6 | 96.8 | 79.9 | 94.3 | 8,464.100[r] | 209,261[r] |
| July | **149.4** | 96.8 | 98.4 | 77.4 | 92.0 | 8,494,300 | 204,110 |
| Aug. | **146.2** | 97.7 | 97.8 | 79.7 | 95.1 | 8,570,200 | 210,996 |
| Sept. | **144.7** | 97.5 | 96.2 | 76.9 | 91.8 | 8,552,200[r] | 203,474[r] |
| Oct. | **146.2** | 96.0[r] | 94.0 | 76.1[r] | 91.8[r] | 8,414,300† | 203,567 |
| Nov. | **144.5** | 90.5[r] | 89.9† | 67.6† | 82.0[r] | 7,933,700† | 181,587† |
| Dec. | **138.9** | 84.5† | — | — | 74.2† | — | — |
| Persons covered | 50,156 | 3,803,646 | | | | * | * |

[1] The figures in brackets after the word " Index " denote the original base period of the series. When they are in heavy type this base has been retained (= 100); in all other cases the series have been recalculated on the base 1929 = 100. [2] Since November 1935, including the Saar Territory. [3] Since December 1936, the series have been recalculated by the Institut für Konjunkturforschung. [4] Since May 1935, excluding voluntarily insured. During the month. [5] Workers covered by the statistics, including unemployed. [7] The figures relate to the 1st of the following month. [8] The monthly figures are more restricted in scope than the yearly figures. [9] Since January 1931, excluding " building ". [10] The figures relate to the 15th of the month.

## TABLE I. STATISTICS OF EMPLOYMENT [1] (*cont.*)

| Date | Finland [2] | | France | | Great Britain | | Hungary | |
|---|---|---|---|---|---|---|---|---|
| | Statistics of establishments | | Returns of labour inspectors | | Unemployment insurance statistics | | Social insurance statistics | |
| | Index (1926) | | Index (same month of 1930) | | | | | |
| | Number employed | Hours worked | Number employed [3] | Hours worked | Estimated number employed | Index (1924) | Number employed | Index (1927) |
| 1927 | 99.5 | 98.6 | * | * | 10,018,000 | 98.0 | 1,033,609 | 98.3 |
| 1928 | 103.1 | 104.6 | * | * | 10,023,000 | 98.0 | 1,064,599 | 101.3 |
| 1929 | **100.0** | **100.0** | * | * | 10,223,000 | **100.0** | 1,051,169 | **100.0** |
| 1930 | 87.0 | 81.9 | **100.0** | **100.0** | 9,809,000 | 96.0 | 990,776 | 94.3 |
| 1931 | 77.5 | 71.1 | *92.5* | *88.6* | 9,437,000 | 92.3 | 937,298 | 89.2 |
| 1932 | 77.6 | 71.9 | *80.9* | *73.6* | 9,367,000 | 91.7 | 862,469 | 82.0 |
| 1933 | 83.1 | 77.6 | *79.4* | *74.3* | 9,684,000 | 94.8 | 853,203 | 81.1 |
| 1934 | 93.2 | 88.0 | *76.9* | *71.4* | 10,142,000 | 99.2 | 913,068 | 86.8 |
| 1935 | 101.4 | 97.6 | *73.5* | *68.1* | 10,386,000 | 101.6 | 958,234 | 91.2 |
| 1936 | 101.8 | 98.2 | *74.1* | *70.5* | 10,917,000 | 106.8 | 1,026,510 | 97.7 |
| 1937 | 108.8 | 105.4 | *78.6* | *65.9* | 11,505,000 | 112.4 | — | — |
| 1936 Dec. | * | * | *75.4* | *71.9* | 11,191,000 | 109.5 | 1,004,722 | 95.6 |
| 1937 Jan. | 102.2 | 100.0 | *75.0* | *67.6* | 11,175,000 | 109.4 | 1,008,849 | 96.0 |
| Feb. | * | * | *75.8* | *66.7* | 11,252,000 | 110.1 | 1,033,323 | 98.3 |
| March | * | * | *76.1* | *66.1* | 11,320,000 | 110.8 | 1,051,105 | 100.0 |
| April | 104.8 | 102.9 | *76.8* | *64.8* | 11,491,000 | 112.4 | 1,107,965 | 105.4 |
| May | * | * | *77.7* | *64.3* | 11,502,000 | 112.5 | 1,126,928 | 107.2 |
| June | * | * | *78.4* | *64.0* | 11,615,000 | 113.7 | 1,098,041 | 104.4 |
| July | 115.5 | 110.5 | *80.7* | *65.5* | 11,629,000 | 113.8 | 1,102,963 | 104.9 |
| Aug. | * | * | *79.7* | *65.9* | 11,676,000 | 114.2 | 1,122,707 | 106.8 |
| Sept. | * | * | *80.6* | *66.6* | 11,710,000 | 114.1 | 1,128,843 | 107.4 |
| Oct. | 112.7 | 108.3 | *81.1* | *66.5* | 11,668,000 | 113.8 | 1,155,800 | 109.9 |
| Nov. | * | * | *81.2* | *66.7* | 11,577,000 | 112.8 [r] | 1,135,886 | 108.1 |
| Dec. | * | * | *79.5* | *65.5* | 11,439,000 | 111.5 | — | — |
| Persons covered | 70,325 | 6,336,919 | 2,311,555 | | * | * | * | * |

| Date | Italy | | | Japan | Latvia | | Luxemburg [7] | |
|---|---|---|---|---|---|---|---|---|
| | Statistics of establishments | | | Statistics of establishments | Sickness insurance statistics | | Statistics of establishments | |
| | Index [4] (1934) | Index [5] (1929) | | Index (1926) | Number employed | Index (1930) | Number employed | Index (1929) |
| | | Number employed | Number of hours worked | | | | | |
| 1927 | * | * | * | 104.1 | 148,288 [6] | 87.4 [6] | 41,129 | 93.6 |
| 1928 | * | * | * | 99.2 | 161,483 | 94.7 | 42,927 | 97.7 |
| 1929 | * | **100.0** | **100.0** | **100.0** | 171,195 | **100.0** | 43,944 | **100.0** |
| 1930 | * | 97.3 | 94.2 | 90.0 | 179,636 | 105.3 | 43,122 | 98.1 |
| 1931 | * | 88.8 | 83.5 | 81.7 | 166,939 | 97.9 | 36,942 | 84.1 |
| 1932 | * | 78.5 | 72.4 | 82.0 | 141,296 | 83.2 | 29,696 | 67.6 |
| 1933 | * | 79.4 | 75.1 | 89.9 | 150,236 | 88.4 | 28,483 | 64.8 |
| 1934 | **100.0** | 82.9 | 77.8 | 100.2 | 162,837 | 95.8 | 28,803 | 65.5 |
| 1935 | 117.1 | 94.0 | 81.0 | 109.7 | 172,615 | 101.1 | 29,334 | 66.8 |
| 1936 | 121.6 | 94.9 | 81.0 | 115.8 | 183,291 | 107.4 | 30,255 | 68.8 |
| 1937 | — | — | — | — | — | — | 33,184 | 75.5 |
| 1936 Dec. | 127.9 | 95.4 | 82.5 | 119.1 | 188,050 | 110.5 | 30,461 | 69.3 |
| 1937 Jan. | 127.7 | 93.7 | 80.8 | 119.6 | 185,146 | 108.4 | 30,649 | 69.7 |
| Feb. | 130.6 | 95.7 | 76.1 | 120.7 | 185,755 | 108.4 | 30,757 | 70.0 |
| March | 133.4 | 100.7 | 80.5 | 122.7 | 187,908 | 110.5 | 31,829 | 72.4 |
| April | 135.1 | 102.9 | 87.9 | 127.8 | 193,173 | 112.6 | 32,430 | 73.8 |
| May | 134.4 | 105.3 | 90.2 | 128.5 | 196,736 | 115.8 | 33,058 | 75.2 |
| June | 132.7 | 104.7 | 91.7 | 129.1 | 199,553 | 116.8 | 33,492 | 76.2 |
| July | 132.8 | 106.2 | 94.5 | 129.3 | 202,757 | 118.9 | 34,110 | 77.6 |
| Aug. | 134.6 | 108.7 [r] | 99.8 | 130.2 | 204,166 | 120.0 | 34,347 | 78.2 |
| Sept. | 139.9 | 110.8† | 93.4 [r] | — | 204,812 | 120.0 | 34,544 | 78.6 |
| Oct. | 141.7 | 109.3† | 102.5† | — | 209,281 [r] | 123.2 [r] | 34,666 | 78.9 |
| Nov. | 142.4 | — | 97.4† | — | 213,971 | 125.3 | 34,566 | 78.7 |
| Dec. | — | — | — | — | — | — | 33,757 | 76.8 |
| Persons covered | 1,146,628 | 1,505,346 | | 1,285,339 | * | * | * | * |

[1] The figures in brackets after the word "Index" denote the original base period of the series. When they are in heavy type this base has been retained (= 100); in all other cases the series have been recalculated on the base 1926 = 100. [2] Figures for the first month of each quarter. [3] The figures relate to the first of the month. [4] Ministry of Corporations. The figures relate to the last week of each month. [5] Fascist General Industrial Confederation. [6] Figures for 1927-1930: yearly averages, based on average number insured each month. [7] The figures relate to the first of the following month.

## TABLE I. STATISTICS OF EMPLOYMENT [1] (*concluded*)

| Date | Norway | | | Netherlands [4] | Poland | | Sweden [7] |
|---|---|---|---|---|---|---|---|
| | Statistics of establishments | | | Unemployment insurance statistics | Statistics of establishments | | Statistics of establishments |
| | Index (September 1935) | | | Index (1929) | Index | | Social Board |
| | All industries | Manufacturing industries | | | Number employed (1928) (all industries) | Hours worked per week (1928) (manufactures) | Index (1926-1930) |
| | Number employed [3] | | Hours worked [3] | | | | |
| 1927 | * | * | * | 98.3 | * | * | * |
| 1928 | * | * | * | 100.3 | 99.0 | 101.9 | * |
| 1929 | * | * | * | **100.0** | **100.0** | **100.0** | * |
| 1930 | * | * | * | 98.0 | 87.2 | 82.9 | * |
| 1931 | * | * | * | 90.5 | 74.5 | 69.3 | * |
| 1932 | * | * | * | 79.4 | 64.1 | 56.9 | * |
| 1933 | * | * | * | 77.7 | 63.8 | 58.3 | *89.1* |
| 1934 | * | * | * | 76.5 | 69.1 | 67.2 | *97.4* |
| 1935 | * | *99* | *101* | 72.6 | 72.8 | 72.7 | *103.1* |
| 1936 | *101* | *104* | *108* | 71.5 | 77.8 | 78.0 | *108.7* |
| 1937 | — | — | — | 77.8† | 88.0† | 89.8† | — |
| 1936 Dec. | *104* | *108* | *113* | 71.5 | 76.0 | 81.8 | *109.8* |
| 1937 Jan. | * | * | * | 69.8 | 75.2 | 73.9 | * |
| Feb. | * | * | * | 72.4 | 77.9 | 78.5 | * |
| March | *101* | *106* | *110* | 74.9 | 81.0 | 82.2 | *111.8* |
| April | * | * | * | 78.1 | 85.4 | 86.4 | * |
| May | * | * | * | 80.2 | 88.1 | 88.7 | * |
| June | *107* | *111* | *110* | 81.4 | 89.7 | 90.3 | *119.3* |
| July | * | * | * | 80.9 | 91.0 | 88.9 | * |
| Aug. | * | * | * | 80.8 | 93.3 | 95.5 | * |
| Sept. | *110* | *113* | *111* | 80.9 | 94.2 | 96.6 | *120.8* |
| Oct. | * | * | * | 80.2 | 99.2 | 100.8 | * |
| Nov. | * | * | * | 78.0 [7] | 95.2 | 101.6 | * |
| Dec. | — | — | — | 75.0† | 85.3† | 94.7† | — |
| Persons covered | 200,700 | 101,600 | | 473,043 [8] | 732,257 † | 25,371 [9] | 271,628 |

| Date | Switzerland | Czechoslovakia [5] | | Union of South Africa | | Yugoslavia | |
|---|---|---|---|---|---|---|---|
| | Statistics of establishments | Social insurance statistics | | Statistics of establishments | | Social insurance statistics | |
| | Index (1925) | Number employed | Index (1928) | Index (July 1925) | | Number employed | Index (1928) |
| | | | | Europeans | Total [5] | | |
| 1927 | 91.2 | * | * | 94.2 | 95.9 | 510,321 | 84.4 |
| 1928 | 97.3 | 2,488,000 | 99.3 | 97.2 | 98.2 | 565,798 | 93.5 |
| 1929 | **100.0** | 2,506,000 | **100.0** | **100.0** | **100.0** | 605,064 | **100.0** |
| 1930 | 96.5 | 2,446,000 | 97.6 | 97.4 | 98.1 | 631,182 | 104.4 |
| 1931 | 88.5 | 2,313,000 | 92.4 | 93.5 | 93.8 | 609,262 | 100.7 |
| 1932 | 76.1 | 2,069,000 | 82.6 | 87.6 | 87.2 | 537,238 | 88.9 |
| 1933 | 73.5 | 1,888,000 | 75.4 | 90.3 | 91.2 | 520,980 | 86.2 |
| 1934 | 74.3 | 1,879,000 | 75.0 | 100.3 | 102.3 | 543,566 | 89.9 |
| 1935 | 70.8 | 1,919,000 | 76.6 | 109.7 | 114.1 | 564,288 | 93.3 |
| 1936 | 70.8 | 2,063,000 | 82.3 | 117.6 | 124.8 | 616,211 | 101.9 |
| 1937 | 78.4 | 2,256,000 | 90.0† | — | — | — | — |
| 1936 Dec. | 72.6 | 2,035,226 | 81.2 | 120.3 | 127.5 | 635,499 | 105.1 |
| 1937 Jan. | * | 1,880,357 | 75.1 | 120.7 | 128.6 | 596,965 | 98.7 |
| Feb. | * | 1,913,310 | 76.4 | 122.0 | 131.1 | 606,786 | 100.3 |
| March | 75.2 | 1,999,822 | 79.8 | 123.5 | 132.3 | 641,131 | 106.0 |
| April | * | 2,192,168 | 87.5 | 124.2 | 133.0 | 661,562 | 109.4 |
| May | * | 2,344,558 | 93.5 | 124.8 | 132.6 | 692,973 | 114.6 |
| June | 78.6 | 2,424,967 | 96.8 | 125.2 | 131.6 | 713,835 | 118.0 |
| July | * | 2,425,310 | 96.8 | 125.5 | 131.3 | 707,429 | 116.9 |
| Aug. | * | 2,426,168 | 96.8 | 126.4 | 131.7 | 721,051 | 119.2 |
| Sept. | 80.3 | 2,397.527 | 95.7 | 127.0 | 131.8 | 716,674 [7] | 118.4 |
| Oct. | * | 2,441,818 | 97.4 | 127.8 | 132.3 | 718.285 | 118.7 |
| Nov. | * | 2,411,087 | 96.2 | — | — | — | — |
| Dec. | 78.5 | 2,211,648 | 88.3† | — | — | — | — |
| Persons covered | 230,463 | * | * | * | * | * | * |

[1] The figures in brackets after the word "Index" denote the original base period of the series. When they are in heavy type this base has been retained (= 100); in all other cases the series have been recalculated on the base 1929 = 100. [2] The figures relate to about the 15th of each month. [3] During the week preceding the 15th of each month. [4] During the month. [5] Workers covered by the statistics, including unemployed. [6] Hours worked (thousands). [7] Quarterly averages. [8] Average for the month. [9] Including "Natives".

## TABLE II. STATISTICS OF UNEMPLOYMENT

| Date | Germany | | | Australia | | Austria | | |
|---|---|---|---|---|---|---|---|---|
| | Employment exchange statistics | | | Trade union returns | | Unemployment insurance statistics | | Employment exchange statistics |
| | Applicants for work registered | Unemployed registered | | Unemployed | | Unemployed in receipt of benefit | | Applicants for work registered |
| | | Number | Per cent. | Number | Per cent. | Number | Per cent. | |
| 1927 | * | 1,353,000[3] | * | 31,032 | 7.0 | 172,450 | 13.6 | 200,112 |
| 1928 | * | 1,353,000[3] | * | 45,669 | 10.8 | 156,185 | 12.1 | 182,444 |
| 1929 | 1,919,917[1] | 1,891,956 | * | 47,359 | 11.1 | 164,477 | 12.3 | 192,062 |
| 1930 | 3,130,082 | 3,075,580 | * | 84,767 | 19.3 | 208,389 | 15.0 | 242,612 |
| 1931 | 4,618,537 | 4,519,704 | 23.7 | 117,866 | 27.4 | 253,368 | 20.3 | 300,223 |
| 1932 | 5,703,088 | 5,575,492 | 30.1 | 120,454 | 29.0 | 309,968 | 26.1 | 377,894 |
| 1933 | 5,083,140 | 4,804,428 | 25.8 | 104,035 | 25.1 | 328,844 | 29.0 | 405,741 |
| 1934 | 3,306,628 | 2,718,309[4] | 14.5[4] | 86,865 | 20.5 | 287,527 | 26.3 | 370,210 |
| 1935 | 2,567,523[5] | 2,151,039[5] | 11.6[5] | 71,823 | 16.5 | 261,768 | 23.4 | 348,675 |
| 1936 | 1,889,626 | 1,592,655 | 8.1 | 53,992 | 12.2 | 259,185 | 22.9 | 349,663 |
| 1937 | 1,087,544 | 912,312 | 4.5 | — | 9.3† | 231,313 | 20.4† | 320,961† |
| 1937 Jan. | 2,052,483 | 1,853,460 | 9.7 | * | * | 316,050 | 28.3 | 407,475 |
| Feb. | 1,816,794 | 1,610,947 | 8.4 | 44,004 | 9.9 | 309,178 | 27.6 | 398,355 |
| March | 1,474,031 | 1,245,338 | 6.5 | * | * | 277,126 | 24.5 | 367,897 |
| April | 1,182,979 | 960,764 | 4.8 | * | * | 239,280 | 21.0 | 330,095 |
| May | 988,113 | 776,321 | 3.9 | 43,584 | 9.7 | 215,176 | 18.7 | 303,562 |
| June | 844,433 | 648,421 | 3.2 | * | * | 196,067 | 17.1 | 281,401 |
| July | 748,608 | 562,892 | 2.8 | * | * | 187,360 | 16.4 | 272,819 |
| Aug. | 691,146 | 509,257 | 2.5 | 42,145 | 9.3 | 178,081 | 15.6 | 261,840 |
| Sept. | 650,901 | 469,053 | 2.3 | * | * | 176,308 | 15.4 | 262,508 |
| Oct. | 685,041 | 501,847 | 2.5 | * | * | 188,262 | 16.4 | 277,749 |
| Nov. | 754,759 | 572,621 | 2.9 | — | 8.2† | 224,166 | 19.5 | 319,195 |
| Dec. | 1,161,237 | 994,784[2] | 5.0 | * | * | 268,707 | 23.7† | 368.637† |
| 1938 Jan. | — | 1,051,740† | 5.3† | * | * | 302,263† | 26.7† | — |
| Base figure | * | 19,780,000† | | 451,584 | | 1,134,117† | | * |

| Date | Belgium | | | | Canada | | | Chile |
|---|---|---|---|---|---|---|---|---|
| | Unemployment insurance statistics | | | | Trade union returns | | Employment exchange statistics | Employment exchange statistics |
| | Percentage unemployed [6] | | Unemployed (daily average during the month) | Days of unemployment per month [6] | Unemployed | | Applicants for work registered | Applicants for work registered |
| | Wholly | Partially | | | Number | Per cent. | | |
| 1927 | 1.8 | 3.9 | 16,103 | 361,185 | 8,142 | 4.9 | 13,541 | * |
| 1928 | 0.9 | 3.5 | 11,317 | 253,848 | 8,120 | 4.5 | 12,758 | * |
| 1929 | 1.3 | 3.0 | 12,636 | 283,434 | 11,488 | 5.7 | 14,996 | * |
| 1930 | 3.6 | 7.9 | 36,102 | 809,775 | 22,873 | 11.1 | 33,008 | * |
| 1931 | 10.9 | 16.9 | 110,392 | 2,476,071 | 33,625 | 16.8 | 69,719 | 29,345 |
| 1932 | 19.0 | 20.7 | 210,575 | 4,723,170 | 38,777 | 22.0 | 75,140 | 107,295 |
| 1933 | 17.0 | 17.2 | 210,007 | 4,710,445 | 33,488 | 22.3 | 81,809 | 71,805 |
| 1934 | 19.0 | 17.2 | 234,730 | 5,264,969 | 28,320 | 18.2 | 88,888 | 30,055 |
| 1935 | 17.9 | 12.8 | 211,533 | 4,835,337 | 25,336 | 15.4 | 84,050 | 10,672 |
| 1936 | 13.4 | 10.0 | 154,531 | 3,631,990 | 23,500 | 13.2 | 90,133 | 6,474 |
| 1937 | — | — | 126,535† | 3,006,027† | 21,655† | 10.8† | 88.516† | — |
| 1937 Jan. | 14.5 | 10.7 | 163,039 | 3,881,345 | 27,379 | 14.5 | 99,016 | 3,774 |
| Feb. | 13.7 | 9.0 | 148,941 | 3,546,437 | 26,001 | 13.7 | 99,041 | 3,115 |
| March | 12.4 | 8.7 | 131,435 | 3,128,345 | 24,314 | 12.9 | 101,508 | 3,916 |
| April | 10.8 | 7.3 | 113,382 | 2,695,083 | 20,958 | 11.1 | 100,423 | 3,165 |
| May | 10.6 | 8.4 | 108,454 | 2,575,002 | 18,583 | 9.5 | 91,513 | 2,721 |
| June | 9.5 | 8.6 | 102,236 | 2,421,013 | 20,522 | 10.4 | 85,336 | 2,522 |
| July | 9.3 | 8.7 | 102,980 | 2,439,215 | 18,093 | 8.9 | 85,045 | 2,899 |
| Aug. | 9.8 | 9.9 | 108.845 | 2,579,215 | 15,213 | 7.6 | 76,043 | 3,703[2] |
| Sept. | 9.9 | 9.3 | 110,883 | 2,629,518 | 16,129 | 7.7 | 77,115 | 3,459[2] |
| Oct. | 10.1 | 8.9 | 109,971 | 2,609,787 | 19,213 | 8.9 | 79,868 | 2,928 |
| Nov. | 12.7 | 12.1 | 139,304[2] | 3,306,061† | 24,860† | 11.2 | 90,162 | 3,137 |
| Dec. | — | — | 178,953† | 4,261,298† | 28,600† | 13.0† | 77,116† | — |
| 1938 Jan. | — | — | — | — | — | — | — | — |
| Base figure | 911,559 | | | | 220,000† | | * | * |

[1] Average for 11 months. [2] Since March 1935, including the Saar Territory. [3] Figures calculated by the Institut für Konjunkturforschung [4] Since 31 July 1933, not including persons employed in labour camps. [5] Having received a control card during the month. [6] Standard month of 24 working days.

## TABLE II. STATISTICS OF UNEMPLOYMENT (*cont.*)

| Date | Denmark | | | Danzig (Free City of) | Spain | | United States | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Trade union fund returns | | Employment exchange statistics | Employment exchange statistics | Employment exchange statistics | | Trade union returns | | | Employment exchange statistics |
| | | | | | | | Percentage unemployed [1] | | | |
| | Unemployed | | Applicants for work registered | Unemployed registered | Unemployed | | Weighted | Unweighted | | Applicants for work registered |
| | Number | Per cent. | | | Wholly | Partially | | Wholly | Partially | |
| 1927 | 61,705 | 22.5 | 65,620 | * | * | * | * | * | * | * |
| 1928 | 50,226 | 18.5 | 51,864 | * | * | * | 9.2 | 13 | * | * |
| 1929 | 42,817 | 15.5 | 44,581 | 12,905 | * | * | 8.2 | 12 | * | * |
| 1930 | 39,631 | 13.7 | 40,551 | 18,291 | * | * | 14.5 | 21 | * | * |
| 1931 | 53,019 | 17.9 | 59,430 | 24,898 | * | * | 19.1 | 26 | 19 | * |
| 1932 | 99,508 | 31.7 | 126,039 | 33,244 | * | * | 23.8 | 32 | 21 | * |
| 1933 | 97,478 | 28.8 | 121,115 | 31,408 | * | * | 24.3 | 31 | 21 | * |
| 1934 | 81,756 | 22.1 | 97,595 | 20,326 | 381,278 | 240,541 | 20.9 | 26 | 24 | * |
| 1935 | 76,195 | 19.7 | 92,406 | 17,983 | 434,931 | 262,059 | 18.5 | 23 | 22 | 7,422,615 |
| 1936 | 78,669 | 19.3 | 93,261 | 13,553 | — | — | 13.3 | 17 | 21 | 7,705,270 |
| 1937 | 95,059† | 21.9† | 107,123† | 8,009 | — | — | 10.5† | 13† | 20† | 5,154,730 |
| 1937 Jan. | 140,262 | 33.0 | 156,209 | 16,797 | — | — | 11.7 | 15 | 21 | 6,282,615 |
| Feb. | 133,795 | 31.4 | 145,627 | 16,724 | — | — | 11.9 | 14 | 21 | 6,115,443 |
| March | 122,687 | 28.6 | 131,335 | 14,909 | — | — | 10.9 | 13 | 19 | 5,495,209 |
| April | 74,793 | 17.5 | 86,446 | 8,776 | — | — | 9.8 | 12 | 20 | 5,519,755 |
| May | 63,310 | 14.8 | 73,379 | 6,526 | — | — | 9.7 | 11 | 20 | 5,309,541 |
| June | 60,199 | 13.9 | 69,389 | 4,617 | — | — | 9.6 | 11 | 20 | 5,016,014 |
| July | 66,006 | 15.2 | 75,830 | 3,327 | — | — | 9.3 | 11 | 20 | 4,938,998 |
| Aug. | 65,853 | 15.1 | 76,391 | 2,984 | — | — | 9.3 | 12 | 20 | 4,853,350 |
| Sept. | 72,387 | 16.5 | 84,340 | 2,910 | — | — | 9.3 | 12 | 20 | 4,636,744 |
| Oct. | 84,684 | 19.2 | 96,258 | 3,800 | — | — | 9.6 | 12 | 19 | 4,393,092 |
| Nov. | 103,878 | 23.5 r | 121,363 | 5,028 | — | — | 11.2 r | 14 r | 20 | 4,421,076 |
| Dec. | 152,850† | 34.6 r | 168,911 | 9,714 | — | — | 13.3† | 17† | 20† | 4,874,924 |
| 1938 Jan. | 132,457† | 29.9† | 150,097† | — | — | — | — | — | — | — |
| Base figure | 451,942 | | * | * | * | * | 964,000 | | | * |

| Date | Estonia [2] | Finland | | France | | Great Britain and Northern Ireland | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Employment exchange statistics | Employment exchange statistics | Statistics of local unemployment committees | Public relief fund statistics | Employment exchange statistics | Unemployment insurance statistics (16-64 years) | | | |
| | | | | | | Wholly unemployed (including casuals) | | Unemployed owing to temporary stoppages | |
| | Unemployed registered | Unemployed registered | Unemployed | Unemployed in receipt of relief | Applications for work | Number | Per cent. | Number | Per cent. |
| 1927 | 2,980 | 1,848 | * | 33,549 | 47,289 | 899,093 | 7.4 | 279,744 | 2.3 |
| 1928 | 2,628 | 1,724 | * | 4,834 | 15,275 | 980,326 | 8.2 | 309,903 | 2.6 |
| 1929 | 3,172 | 3,877 | * | 928 | 10,052 | 994,091 | 8.2 | 268,410 | 2.2 |
| 1930 | 3,089 | 8,009 | * | 2,514 | 13,859 | 1,464,347 | 11.8 | 526,604 | 4.3 |
| 1931 | 3,542 | 11,495 | * | 56,112 | 75,215 | 2,129,359 | 16.7 | 587,494 | 4.6 |
| 1932 | 7,121 | 17,351 | 63,972 | 273,412 [3] | 308,096 | 2,254,857 | 17.6 | 573,805 | 4.5 |
| 1933 | 8,284 | 17,139 | 44,656 | 276,033 | 307,844 | 2,110,090 | 16.4 | 456,678 | 3.5 |
| 1934 | 2,970 | 10,011 | 23,802 | 345,033 | 376,320 | 1,801,913 | 13.9 | 368,906 | 2.8 |
| 1935 | 1,779 | 7,163 | 13,362 | 426,931 | 465,875 | 1,714,844 | 13.1 | 312,598 | 2.4 |
| 1936 | 1,276 | 4,796 | * | 431,897 | 475,099 | 1,497,587 | 11.2 | 251,379 | 1.9 |
| 1937 | 1,158 | 3,763 | * | 350,458 | 348,584 | 1,277,928 | 9.4 | 204,020 | 1.5 |
| 1937 Jan. | 2,388 | 6,805 | * | 426,072 | 465,051 | 1,489,092 | 11.0 | 187,874 | 1.4 |
| Feb. | 2,064 | 5,383 | * | 410,219 | 441,207 | 1,460,026 | 10.8 | 164,739 | 1.2 |
| March | 1,801 | 4,482 | * | 386,254 | 415,179 | 1,406,530 | 10.4 | 169,740 | 1.2 |
| April | 1,191 | 3,554 | * | 368,381 | 395,996 | 1,305,280 | 9.6 | 130,788 | 0.9 |
| May | 638 | 3,126 | * | 345,503 | 374,376 | 1,245,589 | 9.1 | 210,401 | 1.6 |
| June | 486 | 2,076 | * | 319,161 | 343,402 | 1,166,881 | 8.5 | 203,329 | 1.5 |
| July | 403 | 2,089 | * | 313,553 | 337,376 | 1,136,287 | 8.3 | 249,345 | 1.8 |
| Aug. | 470 | 2,794 | * | 311,515 | 334,521 | 1,148,487 | 8.4 | 208,941 | 1.5 |
| Sept. | 473 | 3,450 | * | 307,512 | 333,900 | 1,138,731 | 8.3 | 194,997 | 1.4 |
| Oct. | 788 | 3,705 | * | 319,223 | 347,669 | 1,215,000 | 8.9 | 179,856 | 1.3 |
| Nov. | 1,473 | 3,924 | * | 332,850 | 362,551 | 1,284,386 | 9.4 | 222,204 | 1.6 |
| Dec. | 1,726 r | 3,770 | * | 365,452 | 394,330 | 1,338,850 | 9.8 | 326,026 | 2.4 |
| 1938 Jan. | 2,225 | 4,579† | * | 403,813 | 438,328 | 1,466,354 [4] | 10.7 | 351,483 | 2.6 |
| Base figure | * | * | * | * | * | 13,697,000 | | | |

[1] Unemployed occupied on public and civil works excluded. [2] Since January 1935, applicants for work registered. [3] From July 1932 onwards, including unemployed in receipt of relief from the welfare offices. [4] There were in addition 62,325 persons unemployed in agriculture aged 16-64 and 22,429 unemployed insured juveniles under 16 years.

camps. [8] Having received a control card during the month. [9] Standard months of 24 working days.



TABLE II. STATISTICS OF UNEMPLOYMENT (*cont.*)

| Date | Great Britain | Hungary | Netherlands East Indies | Ireland | | Italy | Japan [6] | |
|---|---|---|---|---|---|---|---|---|
| | Employment exchange statistics | Employment exchange statistics | Employment exchange statistics | Employment exchange statistics | | Social insurance fund statistics [4] | Official estimates | |
| | | | | Applicants for work registered | | | Unemployed | |
| | Applicants for work registered | Applications for work registered | Applicants for work registered | With claims to unemployment benefit | Total | Wholly unemployed | Number | Per cent. |
| 1927 | 1,091,271 | 13,881 | * | 13,728 | 21,284 | 278,484 | * | * |
| 1928 | 1,246,022 | 14,715 | * | 14,821 | 22,487 | 324,422 | * | * |
| 1929 | 1,237,880 | 15,173 | * | 14,679 | 20,702 | 300,786 | * | * |
| 1930 | 1,953,935 | 43,592 [2] | * | 16,378 | 22,398 | 425,437 | 369,408 | 5.3 |
| 1931 | 2,636,805 | 52,305 | 6,964 | 17,852 | 25,230 | 734,454 | 422,755 | 6.1 |
| 1932 | 2,744,789 | 66,235 | 10,922 | 20,217 | 62,817 [5] | 1,006,442 | 485,681 | 6.8 |
| 1933 | 2,520,616 | 60,595 | 14,576 | 19,897 | 72,255 | 1,018,955 | 408,710 | 5.6 |
| 1934 | 2,159,231 | 52,157 | 15,784 | 20,558 | 103.671 | 963,677 | 372,941 | 5.0 |
| 1935 | 2,036,422 | 52,048 | 17,418 | 18,410 | 119,498 | * | 356,044 | 4.6 |
| 1936 | 1,754,975 | 52,114 | 19,700 | 16,318 | 99,834 | * | 338,365 | 4.3 |
| 1937 | 1,484,399 | — | — | 19,418 | 82,425 | * | — | — |
| 1937 Jan. | 1,689,223 | 54,407 | 19,316 | 20,076 | 100,177 | * | 333,331 | 4.2 |
| Feb. | 1,627,845 | 56,192 | 19,459 | 20,322 | 91,680 | * | 328,528 | 4.1 |
| March | 1,601,201 [1] | 56,782 | 19,005 | 20,009 | 93,426 | * | 315,845 | 4.0 |
| April | 1,454,443 | 53,865 | 18,954 | 18,165 | 92,363 | * | 307,958 | 3.9 |
| May | 1,451,330 | 50,273 | 17,894 | 17,754 | 88,480 | * | 300,343 | 3.8 |
| June | 1,356,598 | 45,740 | 18,752 | 18,469 | 64.011 | * | 299,341 | 3.7 |
| July | 1,379,459 | 43.915 | 19,891 | 17,973 | 63,288 | * | 292,050† | 3.6 |
| Aug. | 1,358,621 | 45,904 | 20,210 | 18,364 | 65,670 | * | 283,900† | 3.5 |
| Sept. | 1,339,204 | 44,946 | 20,216 | 19,715 | 68,928 | * | 283,900† | 3.5 |
| Oct. | 1,390,249 | 45,187 | 20,139 | 18.530 | 68,809 | * | 275,830† | 3.4 |
| Nov. | 1,499,203 | 36,968 | 19,208 | 19,671 | 94,414 | * | — | — |
| Dec. | 1,665,407 | 46,132 | — | 23,969 | 97,855 | * | — | — |
| 1938 Jan. | 1,827,607 | — | — | 25,345 | 105,449 | * | — | — |
| Base figure | * | * | * | * | | * | 8,112,598† | |

| Date | Latvia | Mexico | Norway | | | New Zealand | | | Portugal |
|---|---|---|---|---|---|---|---|---|---|
| | Employment exchange statistics | Official estimates | Trade union fund returns | | Employment exchange statistics | Employment exchange statistics | | | Employment exchange statistics |
| | | | | | | Unemployed (men) | | | |
| | Applications for work registered | Number unemployed | Unemployed | | Unemployed [7] | Registered [3] | In full-time subsidised employment (not registered) | Total | Unemployed registered |
| | | | Number | Per cent. | | | | | |
| 1927 | 3,131 | * | 8,561 | 25.4 | 23,889 | 1,973 | * | * | * |
| 1928 | 4,700 | * | 6,502 | 19.2 | 21,759 | 2,563 | * | * | * |
| 1929 | 5,617 | * | 5,902 | 15.4 | 19,089 | 2,895 | * | * | * |
| 1930 | 4,851 | 75,695 [8] | 7,175 | 16.6 | 19,353 | 5,318 | * | * | * |
| 1931 | 8,709 | 257,979 | * | 22.3 | 27,479 | 41,431 | 5,000 [10] | * | * |
| 1932 | 14,587 | 339,378 | 14,790 | 30.8 | 32,705 | 51,549 | 15,000 [10] | * | 33,352 |
| 1933 | 8,156 | 275,774 | 16,588 | 33.4 | 35,591 | 46,944 [9] | 25,719 [9] | 72,663 [9] | 25,255 |
| 1934 | 4,972 | 234,522 | 15,963 | 30.7 | 35,121 | 39,235 | 25,286 | 64,521 | 34,711 [11] |
| 1935 | 4,825 | 189,026 | 14,783 | 25.3 | 36,103 | 38,234 | 18,477 | 56,711 | 42,315 |
| 1936 | 3,851 | 186,867 | 13,267 | 18.8 | 32,643 | 36,890 | 13,260 | 50,152 | 43,057 |
| 1937 | 2,996† | — | — | — | 28,520† | — | — | — | — |
| 1937 Jan. | 6,358 | 191,320 | 18,045 | 23.2 | 35,435 | 31,416 | 6,404 | 37,820 | 43,051 |
| Feb. | 6,178 | 193,429 | 18,163 | 23.1 | 34,440 | 28,941 | 6,781 | 35,722 | 42,964 |
| March | 6,110 | 186,577 | 18,457 | 23.2 | 32,951 | 27,907 | 6,619 | 34,526 | 42,872 |
| April | 3,290 | 178,777 | 17,561 | 21.8 | 31,824 | 27,953 | 6,296 | 34,249 | — |
| May | 2,127 | 162,417 | 14,813 | 18.1 | 26,298 | 28,302 | 5,916 | 34,218 | — |
| June | 1,446 | 160,252 [8] | 13,020 | 15.6 | 22.028 | 29,326 | 6,513 | 35,839 | — |
| July | 1,146 | 159,972† | 12,772 | 15.2 | 18,572 | 30,443 | 8,236 | 38,679 | 39,925 |
| Aug. | 1,093 | 160,938† | 13,221 | 15.6 | 20,045 | 27,323 | 9,993 | 37,316 | 39,637 |
| Sept. | 1,075 | — | 14,503 | 17.0 | 25,431 | 25,053 | 11,397 | 36,450 | 39,096 |
| Oct. | 1,077 | — | 16,286 [8] | 19.1 | 29,063 | — | — | — | — |
| Nov. | 2,304 | — | 18,827 | 22.0 | 32,249 | — | — | — | — |
| Dec. | 3,818† | — | — | — | 33,906† | — | — | — | — |
| 1938 Jan. | 4,061† | — | — | — | 33,046† | — | — | — | — |
| Base figure | * | * | 85.573 | | * | * | | | * |

[1] The extension of the scheme of unemployment assistance resulted in an addition in March of some 20,000 persons to the register. [2] Since January 1930, including non-fee-charging private employment agencies. [3] Extended series. [4] Since July 1933, employment exchange statistics. [5] The figures relate to the 1st of the following month. [6] Figure for the month of May according to the population census. [7] The figures relate to the 15th of the month. [8] For the period 1927-1932, numbers of unemployed males remaining on registers of Government Labour Bureaux. [9] Since 1933, the figures do not always relate to the end of each month. [10] Estimates. [11] Average for eleven months.

## TABLE II. STATISTICS OF UNEMPLOYMENT (*concluded*)

| Date | Netherlands | | | | Poland | | Sweden | | |
|---|---|---|---|---|---|---|---|---|---|
| | Unemployment insurance statistics [1] | | | Employment exchange statistics | Employment exchange statistics | | Trade union returns | | Statistics of local unemployment committees |
| | Unemployed | | Days of unemployment [2] | Wholly unemployed registered | Applications for work registered | | Unemployed | | Applicants for relief registered |
| | Number | Per cent. | Per cent. [2] | | Number | Per cent. | Number | Per cent. | |
| 1927 | 25,000 | 9.0 | 7.5 | * | 163,953 | 7.5 | 31,076 | 12.0 | 19,229 |
| 1928 | 20,300 | 6.8 | 5.6 | * | 125,552 | 5.0 | 29,716 | 10.6 | 16,662 |
| 1929 | 24,300 | 7.1 | 5.9 | * | 129,450 | 4.9 | 32,621 [3] | 10.7 [3] | 10,212 |
| 1930 | 37,800 | 9.7 | 7.8 | * | 226,659 | 8.8 | 42,016 | 12.2 | 13,723 |
| 1931 | 82,800 | 18.1 | 14.8 | 138,231 | 299,502 | 12.6 | 64,815 | 17.2 | 46,540 |
| 1932 | 153,500 | 29.5 | 25.3 | 270,633 | 255,582 | 11.8 | 90,677 | 22.8 | 113,907 |
| 1933 | 163,000 | 31.0 | 26.9 | 322,951 | 249,660 | 11.9 | 97,316 | 23.7 | 164,773 |
| 1934 | 160,400 | 32.1 | 28.0 | 332,772 | 342,166 | 16 3 | 84,685 | 18.9 | 114,802 |
| 1935 | 173,700 | 36.3 | 31.7 | 384,691 | 381,935 | 16.7 | 81,385 | 16.1 | 61,581 |
| 1936 | 169,400 | 36.3 | 32.7 | 414,512 | 367,327 | 15.6 | 71,884 | 13.6 | 35,601 |
| 1937 | 137,393† | 29.1† | 26.9† | 372,423 | 375,088 | 14.5 | — | — | 18,213 |
| 1937 Jan. | 172,014 | 36.9 | 34.3 | 466,242 | 535,563 | 21.9 | 91,542 | 16.4 | 33,509 |
| Feb. | 161,107 | 34.5 | 31.9 | 439,553 | 547,986 | 22.0 | 85,568 | 15.1 | 31,280 |
| March | 149,115 | 31.9 | 29.5 | 403,365 | 521,793 | 20.7 | 86,102 | 15.2 | 27,750 |
| April | 133,523 | 28.5 | 26.5 | 359,726 | 414,974 | 16.3 | 69,620 | 12.2 | 22,247 |
| May | 124,711 | 26.5 | 24.5 | 328,537 | 331,308 | 12.8 | 53,554 | 9.3 | 15,840 |
| June | 119,325 | 25.3 | 23.4 | 310,616 | 293.025 | 11.2 | 50,837 | 8.8 | 11,429 |
| July | 122,982 | 26.0 | 23.9 | 312 907 | 276.781 | 10.5 | 43,345 | 7.5 | 9,800 |
| Aug. | 124,610 | 26.3 | 24.0 | 317,812 | 259,082 | 9.8 | 41,883 | 7.1 | 9,577 |
| Sept. | 124,012 | 26.1 | 23.9 | 324,261 | 251,376 | 9.5 | 45,068 r | 7.7 r | 9,782 |
| Oct. | 126,621 | 26.6 | 24.5 | 340,436 | 262,954 | 9.7 r | 54,783 r | 9.2 r | 12,411 |
| Nov. | 138,118 r | 28.9 r | 26.6 r | 385,983 | 336,209† | 12.4 r | 69,533† | 11.7† | 16,169 |
| Dec. | 152,581† | 32.3† | 29.4† | 437,469 | 470,009† | 17.3† | 109,621† | 18.5† | 18,765 |
| 1938 Jan. | 155,986† | 32.9† | 31.4† | — | — | — | — | — | — |
| Base figure | 474,008† | | | * | 2,711,083† | | 591,906† | | 230 [4] |

| Date | Rumania [5] | Switzerland | | | Czechoslovakia | | | Yugoslavia |
|---|---|---|---|---|---|---|---|---|
| | Employment exchange statistics | Unemployment insurance statistics | | Employment insurance statistics | Trade union fund returns | | Employment exchange statistics | Employment exchange statistics |
| | Unemployed registered | Percentage unemployed | | Applications for work registered | Unemployed in receipt of benefit | | Applicants for work registered | Unemployed registered |
| | | Wholly | Partially | | Number | Per cent. | | |
| 1927 | * | 2.7 | 2.0 | 11,824 | 17,617 | 1.6 | 52,869 | * |
| 1928 | 10,373 | 2.1 | 1.1 | 8,380 | 16,348 | 1.4 | 38,636 | 5,721 |
| 1929 | 7,288 | 1.8 | 1.7 | 8,131 | 23,763 | 2.2 | 41,630 | 8,370 |
| 1930 | 25,335 | 3.4 | 7.2 | 12,881 | 51,372 | 4.5 | 105,442 | 8,198 |
| 1931 | 35,737 | 5.9 | 12.1 | 24,208 | 102,179 | 8.3 | 291,332 | 9,930 |
| 1932 | 38,890 | 9.1 [6] | 12.2 [6] | 54,366 | 184,555 | 13.5 | 554,049 | 14,761 |
| 1933 | 29,063 | 10.8 | 8.5 | 67,867 | 247,613 | 16.9 | 738,267 | 15,997 |
| 1934 | 17,253 | 9.8 | 6.1 | 65.440 | 245,953 | 17.4 | 676,994 | 15,647 |
| 1935 | 13,852 | 11.8 | 5.9 | 82.468 | 235,623 | 15.9 | 686.269 | 16,752 |
| 1936 | 13,549 | 13.2 | 5.3 | 93,009 | 208,539 | 13.1 | 622,687 | 19,436 |
| 1937 | — | 10.0 | 2.5 | 71,130 | — | — | 408,949 | 21,650 |
| 1937 Jan. | 18,778 | 16.6 | 3.3 | 110,754 | 210,894 | 12.9 | 667,486 | 35,170 |
| Feb. | 19,653 | 16.0 | 3.0 | 105.736 | 221,464 | 13.2 | 677,947 | 39,510 |
| March | 17,392 | 12.8 | 2.7 | 89,346 | 210,244 | 12.4 | 627,258 | 35,324 |
| April | 12,609 | 9.7 | 2.2 | 70,793 | 176,348 | 10.3 | 503,632 | 24,765 |
| May | 10,784 | 7.2 | 1.9 | 57.973 | 137,677 | 8.0 | 385,061 | 16,936 |
| June | 6,396 | 6.5 | 1.9 | 50,830 | 113,838 | 6.6 | 303,535 | 11,258 |
| July | 5,822 | 6.6 | 1.9 | 49,244 | 110.861 | 6.4 | 248,127 | 11,543 |
| Aug. | 5,878 | 6.7 | 2 0 | 51,892 | 108,063 | 6.2 | 233.318 | 10,845 |
| Sept. | 6,083 | 6.9 | 2.1 | 51,876 | 106,496 | 6.1 | 230,692 | 12,250 |
| Oct. | 6,343 | 7.6 | 2.4 | 56,804 | 107,782 | 6.1 | 237,737 | 13,719 |
| Nov. | — | 9.5 | 3.0 | 71,002 | 132,364 | 7.5 | 333,455 | 18,494 |
| Dec. | — | 13.4 | 3.5 | 87,311 | — | — | 459,142 r | 29,988 |
| 1938 Jan. | — | — | — | 95,722 | — | — | 518,871† | — |
| Base figure | * | 471,429† | | * | 1,769,600† | | * | * |

[1] Weekly averages. [2] Days of unemployment, as a percentage of the number of days which could have been worked, had there been no unemployment. [3] From 1929 onwards, including forestry workers and timber floaters. [4] Number of relief funds. [5] The figures relate to the 1st of the following month. [6] Up to 1931, quarterly statistics afterwards, monthly statistics.

# Recent Family Budget Enquiries[1]:

## The South African Family Budget Enquiry of 1936[2]

A number of family budget enquiries have been undertaken in recent years in the Union of South Africa. The results of the most important of these, the enquiry undertaken by the Office of Census and Statistics in 1936, have recently been published and its main findings are summarised in the following pages.

### Scope and Method

The enquiry was conducted by the Office of Census and Statistics in close collaboration with a "Joint Committee on Cost of Living, Public and Railway Services and Other Trade Unions and Staff Associations" set up by important workers' and salaried employees' organisations of the country to assist in the preparation of the forms and the distribution and collection of the questionnaires.

In all, 239 supervisors and enumerators took part in the enquiry. These were selected mainly through the various associations interested in the enquiry, though they included also some persons connected with the universities. The enumerators were asked not to confine their attention to members of the associations but to interest others. Special arrangements were made to safeguard the confidential character and complete anonymity of the returns. Those filling up forms were asked not to sign them, and they were allowed the option of sending the completed form directly to the Central Office rather than handing it to the enumerator.

The enquiry related to average monthly expenditure and income. The information was collected in part from families which kept household account-books and in part from families which were sufficiently interested to keep records of household expenses and income during

[1] For a summary of other family budget enquiries, cf. *International Labour Review*, Vol XXVIII, No. 5, Nov. 1933: "Recent Family Budget Enquiries"; Vol. XXX, No. 1, July 1934: "The Belgian Family Budget Enquiry of 1928-1929"; No. 2, Aug. 1934: "The Finnish Family Budget Enquiry of 1928"; No. 6, Dec. 1934: "Expenditure of Working-Class Families of Merseyside, England, 1929-1931"; Vol. XXXI, No. 3, March 1935: "The Czechoslovak Family Budget Enquiry of 1929-1930"; No. 6, June 1935: "The Swedish Family Budget Enquiry of 1933"; Vol. XXXII, No. 2, Aug. 1935: "The Shanghai Family Budget Enquiry of 1929-1930"; No. 5, Nov. 1935: "Family Budget Enquiries in Japan, 1926 to 1934"; Vol. XXXIII, Nos. 2 and 5, Feb. and May 1936: "Recent Family Budget Enquiries in Latin America" (Argentina, Brazil and Mexico); Vol. XXXIV, No. 6, Dec. 1936: "Expenditure and Cost of Living at Different Social Levels in the United States"; Vol. XXXVI, No. 3, Sept. 1937: "The Bombay Family Budget Enquiry of 1932-1933"; No. 5, Nov. 1937: "The Danish Family Budget Enquiry of 1931"; No. 6, Dec. 1937; "The Budget of a Family in Moderate Circumstances in Iran".

[2] Source: Union of South Africa: Office of Census and Statistics: *Report on the Inquiry into the Expenditure of European Families in Certain Urban Areas, 1936.* Government Printer, Pretoria, 1937.

March and April 1936 (corresponding to September and October in the northern hemisphere). These data from records were supplemented by estimates of average monthly expenditures in certain cases.[1] No further data are given in the report as to the time actually covered by the records, or as to the extent to which estimates were used.

A total of 1,998 completed forms were collected, of which 1,618 were included in the final tabulation. The enquiry relates to European (white) families having one or more children, living in the nine chief urban industrial areas [2] of the country, whose total income did not exceed £600. Returns were excluded if there were no children in the household, if the income exceeded £600 a year, including the estimated rental value of the house, and if the family lived outside the areas selected for study; and for other reasons, e.g., failure to return the form by the stated date, failure to return the form after a query had been raised, the presence in the family of boarders not members of the family, the fact that the family was living in a boarding house, the presence of unexplained discrepancies between expenditure and income, etc.

Results are published for the different areas and for the country as a whole. In the present summary, however, only the general averages are given; for details for different areas the reader is referred to the original publication.

TABLE I. CLASSIFICATION BY OCCUPATION OF THE HEAD OF THE HOUSEHOLD

| Occupation | Number | Per cent. |
|---|---|---|
| Civil servants | 323 | 20.0 |
| Railway clerks | 313 | 19.3 |
| Labourers (not elsewhere enumerated) | 167 | 10.3 |
| Railway workers (checkers, cleaners, shunters, wagon-examiners, engine drivers, etc.) | 115 | 7.1 |
| Mechanics and electricians | 113 | 7.0 |
| Building operatives | 72 | 4.4 |
| Caretakers and storemen | 50 | 3.1 |
| Bank officials | 45 | 2.8 |
| Policemen and warders | 40 | 2.5 |
| Draughtsmen and designers | 34 | 2.1 |
| Transport drivers | 32 | 2.0 |
| Commercial clerks | 29 | 1.8 |
| Inspectors, health officers, etc. | 28 | 1.7 |
| Printing operatives | 27 | 1.7 |
| Municipal clerks | 25 | 1.5 |
| Other [1] | 205 | 12.7 |
| Total | 1,618 | 100.0 |

[1] Including occupations for which less than 25 households were represented: amusements, catering and personal services; shop assistants, travellers, etc; fire brigade; gardeners; hospital staff; housewives; industrial operatives (not elsewhere enumerated); mining; municipal employees (not elsewhere enumerated); postmen; professional workers (not elsewhere enumerated); teachers; and others.

[1] For example, net rental value of own house.

[2] The areas covered are: Capetown, Port Elizabeth, East London, Kimberley, Pietermaritzburg, Durban, Pretoria, Witwatersrand, Bloemfontein.

As regards the representation in the study of families of different social classes, e.g., workers, salaried employees, civil servants, etc., table I shows the occupations of the heads of households covered by the enquiry. Owing to the interest taken by organisations of workers in the public and railway services in the enquiry the number of civil servants and railway clerks is high.

The 1,618 households covered contained 8,676 persons, or 5.36 persons on the average, consisting of 2.42 adult members of the family (1.19 males and 1.23 females), 2.26 children (1.16 males and 1.10 females) and 0.68 servants (0.26 males and 0.42 females). Lodgers were not counted as members of the household. Approximately one-third of the households included no servants.

## Expenditure and Income

According to the report, one of the greatest difficulties encountered was to obtain balanced budgets. On the one hand there was a tendency to insert annual or quarterly instead of monthly figures, while on the other important sources of income were omitted. The completed forms were carefully checked for accuracy and consistency and a considerable proportion returned for amendment or explanation.

The budgets considered showed on the average a monthly surplus of 5s. 11d. In 1,037 (64.1 per cent.) cases income exceeded expenditure, the average surplus being £1 11s. 2d. ; 552 (34.1 per cent.) cases showed deficits, averaging £2 1s. 2d. monthly ; 29 (1.8 per cent.) of the budgets balanced.

The distribution of the families according to size of income is given in table II. The largest number fell in the income group £375-£400. Of all the families, 485 (30 per cent.) had incomes between £300 and £400 ; 452 (27.9 per cent.) had between £400 and £500. The families with low incomes (below £200) and those with high incomes (£500-£600) were represented in practically equal numbers, 210 in the former and 211 in the latter. The average monthly income of all families amounted to £30 5s. 6d.

### *Sources of Income*

Table II shows the distribution of income according to source.[1] Income from earnings accounted for 95.6 per cent. of the total family income, incomes from other sources for 4.4 per cent. As regards the different income groups, the percentage of income derived from earnings was higher in families with low incomes than in families with higher incomes. The bulk of income from employment (90.2 per cent. of the total income from all sources) was derived from the husband's earnings (including allowances, overtime and any subsidiary earnings). The contribution of the wife to the family income averaged only 0.5 per cent ; it was nil in 5 income groups and only in 4 groups did it exceed 1 per cent. The contribution of other members of the family showed the highest percentage in the income groups from £150 to £225 and in those from £550 to £600 ; the lowest percentage occurred in the

[1] The classification in this table differs from the one given in the original report, where income derived from letting rooms, from investments, home produce etc., is regarded as a contribution on the part of the head of the household.

## TABLE II. ANALYSIS OF MONTHLY INCOME BY SOURCE AND INCOME CLASS

| Item | All families | Families with yearly income of: Up to £125 | £125 –£150 | £150 –£175 | £175 –£200 | £200 –£225 | £225 –£250 | £250 –£275 | £275 –£300 | £300 –£325 | £325 –£350 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of families | 1,618 | 63 | 48 | 46 | 53 | 54 | 61 | 79 | 66 | 82 | 131 |
| | (a) Absolute figures | | | | | | | | | | |
| Total monthly income | £ s. d. 30 5 6 | £ s. d. 9 15 1 | £ s. d. 11 9 3 | £ s. d. 13 10 4 | £ s. d. 15 11 0 | £ s. d. 17 14 1 | £ s. d. 19 19 7 | £ s. d. 21 19 1 | £ s. d. 24 3 4 | £ s. d. 26 4 10 | £ s. d. 28 4 11 |
| | (b) Percentages | | | | | | | | | | |
| Income from earnings | 95.6 | 99.4 | 98.6 | 98.4 | 95.3 | 93.9 | 97.4 | 97.1 | 95.8 | 98.3 | 97.2 |
| Husband | 90.2 | 97.1 | 92.5 | 87.0 | 80.9 | 83.7 | 94.5 | 91.1 | 89.3 | 92.5 | 94.2 |
| Wife | 0.5 | — | 1.3 | — | 0.9 | 1.3 | — | 0.3 | 0.2 | 0.1 | 0.8 |
| Other members of the family | 4.9 | 2.3 | 4.8 | 11.4 | 13.5 | 8.9 | 2.9 | 5.7 | 6.3 | 5.7 | 2.2 |
| Income from other sources | 4.4 | 0.6 | 1.4 | 1.6 | 4.7 | 6.1 | 2.6 | 2.9 | 4.2 | 1.7 | 2.8 |
| Letting of rooms | 1.0 | — | — | 0.9 | 0.6 | 3.1 | 1.0 | 0.9 | 1.0 | 0.6 | 1.3 |
| Rents and investments | 1.2 | — | — | — | 0.8 | 0.7 | 0.5 | 0.2 | 0.2 | 0.5 | 0.2 |
| Home produce | 0.1 | — | 0.1 | — | — | 0.3 | 0.1 | 0.2 | 0.4 | — | 0.1 |
| Net value of owned house | 1.7 | 0.5 | 1.0 | 0.3 | 2.7 | 1.3 | 0.2 | 1.0 | 1.3 | 0.5 | 0.7 |
| Other sources including gifts | 0.4 | 0.1 | 0.3 | 0.4 | 0.6 | 0.7 | 0.8 | 0.6 | 1.3 | 0.1 | 0.5 |
| Total income | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| Item | Families with yearly income of: £350 –£375 | £375 –£400 | £400 –£425 | £425 –£450 | £450 –£475 | £475 –£500 | £500 –£525 | £525 –£550 | £550 –£575 | £575 –£600 |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of families | 124 | 148 | 145 | 118 | 100 | 89 | 55 | 57 | 38 | 61 |
| | (a) Absolute figures | | | | | | | | | |
| Total monthly income | £ s. d. 30 4 8 | £ s. d. 32 7 2 | £ s. d. 34 6 11 | £ s. d. 36 11 6 | £ s. d. 38 12 11 | £ s. d. 40 13 9 | £ s. d. 42 12 9 | £ s. d. 44 19 9 | £ s. d. 46 18 6 | £ s. d. 49 4 4 |
| | (b) Percentages | | | | | | | | | |
| Income from earnings | 97.1 | 95.6 | 96.6 | 96.3 | 94.2 | 93.1 | 93.9 | 95.4 | 91.2 | 92.6 |
| Husband | 94.9 | 92.2 | 92.1 | 91.8 | 90.5 | 84.9 | 87.3 | 89.3 | 83.2 | 83.2 |
| Wife | 0.4 | 0.4 | — | 0.3 | 0.4 | 1.1 | 0.7 | 0.5 | — | 1.7 |
| Other members of the family | 1.8 | 3.0 | 4.5 | 4.2 | 3.3 | 7.1 | 5.9 | 5.6 | 8.0 | 7.7 |
| Income from other sources | 2.9 | 4.4 | 3.4 | 3.7 | 5.8 | 6.9 | 6.1 | 4.6 | 8.8 | 7.4 |
| Letting of rooms | 0.6 | 1.2 | 1.0 | 0.6 | 1.7 | 0.6 | 0.8 | 1.1 | 2.3 | 0.7 |
| Rents and investments | 0.9 | 1.1 | 0.8 | 1.3 | 2.0 | 1.2 | 1.2 | 2.3 | 3.6 | 2.4 |
| Home produce | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | — | 0.0 | — | 0.1 |
| Net value of owned house | 0.9 | 1.9 | 1.2 | 1.5 | 1.7 | 3.6 | 3.4 | 1.2 | 2.6 | 4.0 |
| Other sources including gifts | 0.4 | 0.1 | 0.3 | 0.3 | 0.3 | 1.4 | 0.7 | — | 0.3 | 0.2 |
| Total income | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

centrally placed income group—from £375 to £400. The percentage, however, varied considerably from group to group, the absolute amounts (monthly) varying between 4s. 6d. and £3 15s. 8d. Of the items of income from other sources, the " net value of own house " [1] was the most important. Amounting on the average to 1.7 per cent. of the total family income, it was both absolutely and relatively of greater importance in the higher income groups. Income from rent and investment averaged 1.2 per cent. Letting of rooms contributed only 1.0 per cent. to the income. Income from gifts and home produce was 0.4 per cent and 0.1 per cent. respectively.

### *Expenditure*

The principal findings with regard to expenditure are given in table III. The original source contains a detailed classification of expenditure on more than 30 items. Table III also shows the distribution of expenditure according to the classification adopted by the International Labour Office in analysing family budget studies. [2]

TABLE III. ANALYSIS OF MONTHLY EXPENDITURE, BY INCOME GROUPS

| Item | All families | Families with yearly income of: | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Up to £125 | £125 to £150 | £150 to £175 | £175 to £200 | £200 to £225 | £225 to £250 | £250 to £275 | £275 to £300 | £300 to £325 | £325 to £350 |
| | Absolute figures | | | | | | | | | | |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| Food | 9 4 8 | 4 3 1 | 4 13 10 | 5 6 10 | 6 0 0 | 6 10 3 | 6 19 1 | 6 16 3 | 8 0 5 | 8 5 1 | 8 16 7 |
| Housing | 6 13 1 | 2 10 7 | 2 18 7 | 3 12 0 | 3 12 11 | 4 6 2 | 4 14 0 | 5 5 9 | 5 9 10 | 5 18 0 | 6 3 10 |
| Clothing | 3 12 8 | 1 4 8 | 1 8 4 | 1 16 8 | 2 6 10 | 2 4 1 | 2 10 5 | 2 11 4 | 3 3 0 | 3 6 7 | 3 11 4 |
| Fuel and light | 1 4 6 | 13 7 | 15 2 | 15 7 | 17 1 | 17 3 | 1 1 4 | 1 0 3 | 1 2 7 | 1 2 3 | 1 4 4 |
| Miscellaneous | 9 4 8 | 1 8 3 | 1 13 11 | 1 15 9 | 2 10 10 | 3 10 9 | 4 17 10 | 6 0 5 | 6 10 1 | 7 4 3 | 8 9 1 |
| Total | 29 19 7 | 10 0 2 | 11 9 10 | 13 6 10 | 15 7 8 | 17 8 6 | 20 2 8 | 21 14 0 | 24 5 11 | 25 16 2 | 28 5 2 |
| | Percentages | | | | | | | | | | |
| Food | 30.8 | 41.5 | 40.8 | 40.1 | 39.0 | 37.4 | 34.6 | 31.4 | 33.0 | 32.0 | 31.3 |
| Housing | 22.2 | 25.3 | 25.5 | 27.0 | 23.7 | 24.7 | 23.3 | 24.4 | 22.6 | 22.9 | 21.9 |
| Clothing | 12.1 | 12.3 | 12.3 | 13.7 | 15.2 | 12.6 | 12.5 | 11.8 | 13.0 | 12.9 | 12.6 |
| Fuel and light | 4.1 | 6.8 | 6.6 | 5.8 | 5.6 | 5.0 | 5.3 | 4.7 | 4.6 | 4.3 | 4.3 |
| Miscellaneous | 30.8 | 14.1 | 14.8 | 13.4 | 16.5 | 20.3 | 24.3 | 27.7 | 26.8 | 27.9 | 29.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

[1] The " net value of own house " was defined as the balance of the estimated rental value of the owned house less interest on bond, repairs and rates usually paid by the landlord.

[2] According to the I.L.O. classification, the food group includes alcoholic beverages and tobacco ; housing covers rent and rates, replacement of furniture and crockery, and kitchen utensils, etc. ; clothing includes washing and cleaning materials, blankets and linen.

TABLE III. ANALYSIS OF MONTHLY EXPENDITURE, BY INCOME GROUPS (*cont.*)

| Item | Families with yearly income of: £350 to £375 | £375 to £400 | £400 to £425 | £425 to £450 | £450 to £475 | £475 to £500 | £500 to £525 | £525 to £550 | £550 to £575 | £575 to £600 |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Absolute figures** | | | | | | | | | |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| Food | 9 10 9 | 9 8 9 | 10 4 0 | 10 15 10 | 11 2 0 | 11 13 9 | 12 0 4 | 12 14 3 | 13 4 3 | 13 16 11 |
| Housing | 6 13 6 | 7 7 1 | 7 14 0 | 7 17 4 | 8 7 8 | 8 8 6 | 8 19 4 | 8 18 3 | 9 17 1 | 9 14 9 |
| Clothing | 3 12 2 | 3 16 5 | 4 0 7 | 4 3 11 | 4 9 10 | 4 18 3 | 4 17 10 | 5 4 9 | 5 8 10 | 5 19 11 |
| Fuel and light | 1 4 3 | 1 5 7 | 1 6 7 | 1 8 10 | 1 8 7 | 1 8 11 | 1 12 0 | 1 10 11 | 1 12 3 | 1 12 3 |
| Miscellaneous | 9 5 7 | 10 7 10 | 10 15 6 | 11 19 6 | 13 0 3 | 13 5 10 | 14 18 10 | 15 5 4 | 16 4 4 | 16 10 8 |
| Total | 30 6 3 | 32 5 8 | 34 0 8 | 36 5 5 | 38 8 4 | 39 15 3 | 42 8 4 | 43 13 6 | 46 6 9 | 47 14 6 |
| | **Percentages** | | | | | | | | | |
| Food | 31.5 | 29.2 | 30.0 | 29.7 | 28.9 | 29.4 | 28.4 | 29.1 | 28.5 | 29.0 |
| Housing | 22.0 | 22.8 | 22.6 | 21.7 | 21.8 | 21.2 | 21.1 | 20.4 | 21.3 | 20.4 |
| Clothing | 11.9 | 11.8 | 11.8 | 11.6 | 11.7 | 12.4 | 11.5 | 12.0 | 11.7 | 12.6 |
| Fuel and light | 4.0 | 4.0 | 3.9 | 4.0 | 3.7 | 3.6 | 3.8 | 3.5 | 3.5 | 3 4 |
| Miscellaneous | 30.6 | 32.2 | 31.7 | 33.0 | 33.9 | 33.4 | 35.2 | 35.0 | 35.0 | 34.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

The total average monthly expenditure per family amounted to £29 19s. 7d. The proportion spent on food was 30.8 per cent. for all families, ranging from 28.4 per cent. for families having incomes between £500 and £525 to 41.5 per cent. for the lowest income group. Expenditure on housing was 22.2 per cent. for all families, families with low incomes spending relatively more than families with higher incomes. The percentage spent on clothing was fairly constant, averaging 12.1 per cent. The relative expenditure on fuel and light, averaging 4.1 per cent., decreased with advancing income; it was 6.8 per cent. in the lowest and 3.4 per cent. in the highest income class. Miscellaneous items accounted for 30.8 per cent. of the total expenditure, rising with advancing income, from 14 per cent. in the lowest to 35 per cent. in the highest income group.

### *Food Expenditure per Unit of Consumption*

In table IV the food expenditure and consumption per consumption unit[1] is analysed in detail for a limited number of income groups, distributed over the range of incomes covered by the enquiry. The different foodstuffs are grouped according to the scheme adopted by the International Labour Office.[2]

[1] The scale of conversion used in converting the various members into the common unit is the international scale established by the Health Organisation of the League of Nations. The scale is as follows: adult male, 14-59 years, 1.0; adult female, 14-59 years, 0.8; old persons, over 60, 0.8; children (both sexes): under 2 years, 0.2; 2-3 years, 0.3; 4-5 years, 0.4; 6-7 years, 0.5; 8-9 years, 0.6; 10-11 years, 0.7; 12-13 years, 0.8.

[2] Table IV does not cover drinks and tobacco, no data being available on expenditure per consumption unit for these articles.

## TABLE IV. ANALYSIS OF MONTHLY EXPENDITURE ON FOOD PER UNIT OF CONSUMPTION FOR SELECTED INCOME GROUPS

| Item | All families | | | | Families with yearly income of: | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Up to £125 | | | | £175 to £200 | | | | £250 to £275 | | | |
| Number of families | 1,618 | | | | 63 | | | | 53 | | | | 79 | | | |
| Consumption units per family | 4.06 | | | | 3.14 | | | | 3.95 | | | | 3.82 | | | |
| Food group | Quantity [1] | Expenditure | | | Quantity [1] | Expenditure | | | Quantity [1] | Expenditure | | | Quantity [1] | Expenditure | | |
| | lb. | £ | s. | d. Per cent. | lb. | £ | s. | d. Per cent. | lb. | £ | s. | d. Per cent. | lb. | £ | s. | d. Per cent. |
| Bread | 10.92 | 0 | 2 | 10 6.6 | 3.46 | 0 | 0 | 9 3.0 | 6.80 | 0 | 1 | 5 4.9 | 8.56 | 0 | 2 | 3 6.7 |
| Flour and meal | 10.50 | 0 | 2 | 1 4.9 | 22.90 | 0 | 4 | 2 16.5 | 18.11 | 0 | 3 | 3 11.1 | 12.40 | 0 | 2 | 4 6.9 |
| Oatmeal and rolled oats | 1.49 | 0 | 0 | 6 1.2 | 0.83 | 0 | 0 | 3 1.0 | 0.83 | 0 | 0 | 3 0.9 | 1.54 | 0 | 0 | 6 1.5 |
| Rice | 2.51 | 0 | 0 | 7 1.4 | 4.04 | 0 | 0 | 8 2.6 | 3.13 | 0 | 0 | 8 2.3 | 2.67 | 0 | 0 | 7 1.7 |
| Mealie meal | 2.91 | 0 | 0 | 4 0.8 | 3.65 | 0 | 0 | 5 1.6 | 2.95 | 0 | 0 | 4 1.1 | 3.25 | 0 | 0 | 4 1.0 |
| Cake and pastry | — | 0 | 0 | 6 1.2 | — | — | | — | — | 0 | 0 | 3 0.9 | — | 0 | 0 | 3 0.7 |
| Bread and cereals [2] | 28.33 | 0 | 6 | 10 16.1 | 34.88 | 0 | 6 | 3 24.7 | 31.82 | 0 | 6 | 2 21.2 | 28.42 | 0 | 6 | 3 18.5 |
| Meat (fresh) | 10.32 | 0 | 6 | 10 16.1 | 8.88 | 0 | 4 | 6 17.8 | 9.80 | 0 | 5 | 3 18.1 | 10.46 | 0 | 5 | 11 17.5 |
| Fish (fresh) | 1.16 | 0 | 0 | 8 1.5 | 0.62 | 0 | 0 | 4 1.3 | 1.06 | 0 | 0 | 4 1.1 | 0.67 | 0 | 0 | 5 1.2 |
| Bacon and ham | 0.49 | 0 | 0 | 8 1.5 | 0.02 | — | | — | 0.17 | 0 | 0 | 2 0.6 | 0.26 | 0 | 0 | 4 1.0 |
| Other meats | — | 0 | 0 | 7 1.4 | — | 0 | 0 | 2 0.7 | — | 0 | 0 | 4 1.1 | — | 0 | 0 | 4 1.0 |
| Poultry | — | 0 | 0 | 5 1.0 | — | — | | — | — | 0 | 0 | 1 0.3 | — | 0 | 0 | 1 0.2 |
| Fish (dried, smoked or tinned) | — | 0 | 0 | 5 1.0 | — | 0 | 0 | 1 0.3 | — | 0 | 0 | 3 0.9 | — | 0 | 0 | 4 1.0 |
| Meat, fish, etc. | — | 0 | 9 | 7 22.5 | — | 0 | 5 | 1 20.1 | — | 0 | 6 | 5 22.1 | — | 0 | 7 | 5 21.9 |
| Lard, dripping, fat | — | 0 | 0 | 7 1.4 | — | 0 | 0 | 5 1.6 | — | 0 | 0 | 5 1.4 | — | 0 | 0 | 7 1.7 |
| Milk (fresh) | 19.09 | 0 | 4 | 6 10.6 | 4.22 | 0 | 0 | 11 3.6 | 7.70 | 0 | 1 | 11 6.6 | 14.80 | 0 | 3 | 7 10.6 |
| ,, (condensed) | 0.75 | 0 | 0 | 5 1.0 | 2.44 | 0 | 1 | 4 5.3 | 1.51 | 0 | 0 | 10 2.9 | 0.70 | 0 | 0 | 5 1.2 |
| Butter | 2.41 | 0 | 3 | 4 7.8 | 1.43 | 0 | 1 | 7 6.2 | 1.52 | 0 | 2 | 0 6.9 | 1.89 | 0 | 2 | 7 7.7 |
| Cheese | 0.55 | 0 | 0 | 8 1.6 | 0.14 | 0 | 0 | 2 0.7 | 0.40 | 0 | 0 | 5 1.4 | 0.55 | 0 | 0 | 7 1.7 |
| Eggs | 1.42 | 0 | 2 | 1 4.9 | 0.23 | 0 | 0 | 4 1.3 | 0.52 | 0 | 0 | 8 2.3 | 0.90 | 0 | 1 | 3 3.7 |
| Milk, milk products and eggs | — | 0 | 11 | 0 25.9 | — | 0 | 4 | 4 17.1 | — | 0 | 5 | 10 20.1 | — | 0 | 8 | 5 24.9 |
| Sago, tapioca, dried beans | — | 0 | 0 | 3 0.6 | — | 0 | 0 | 3 1.0 | — | 0 | 0 | 4 1.1 | — | 0 | 0 | 3 0.7 |
| Potatoes | 11.48 | 0 | 1 | 3 2.9 | 11.71 | 0 | 1 | 4 5.3 | 10.23 | 0 | 1 | 1 3.7 | 11.10 | 0 | 1 | 1 3.2 |
| Vegetables and fruit (fresh) | — | 0 | 4 | 8 11.0 | — | 0 | 1 | 11 7.5 | — | 0 | 2 | 7 8.9 | — | 0 | 3 | 2 9.3 |
| Fruit (dried or canned) | — | 0 | 0 | 7 1.4 | — | 0 | 0 | 2 0.7 | — | 0 | 0 | 3 0.9 | — | 0 | 0 | 6 1.5 |
| Marmalade and jam | 1.68 | 0 | 0 | 10 1.9 | 0.91 | 0 | 0 | 5 1.6 | 1.21 | 0 | 0 | 6 1.7 | 1.36 | 0 | 0 | 8 2.0 |
| Vegetables and fruit | — | 0 | 7 | 7 17.8 | — | 0 | 4 | 1 16.1 | — | 0 | 4 | 9 16.3 | — | 0 | 5 | 8 16.7 |
| Sugar | 8.48 | 0 | 2 | 4 5.5 | 9.78 | 0 | 2 | 7 10.2 | 9.36 | 0 | 2 | 6 8.5 | 8.14 | 0 | 2 | 2 6.4 |
| Tea | 0.55 | 0 | 1 | 3 2.9 | 0.38 | 0 | 0 | 10 3.3 | 0.39 | 0 | 0 | 11 3.2 | 0.43 | 0 | 1 | 0 3.0 |
| Coffee | 0.51 | 0 | 0 | 7 1.4 | 1.17 | 0 | 1 | 1 4.2 | 0.95 | 0 | 0 | 11 3.2 | 0.62 | 0 | 0 | 8 2.0 |
| Golden syrup | 0.75 | 0 | 0 | 4 0.8 | 0.68 | 0 | 0 | 3 1.0 | 0.64 | 0 | 0 | 3 0.9 | 0.61 | 0 | 0 | 3 0.7 |
| Baking powder | — | 0 | 0 | 4 0.8 | — | 0 | 0 | 2 0.7 | — | 0 | 0 | 3 0.9 | — | 0 | 0 | 4 1.0 |
| Biscuits and sweets | — | 0 | 0 | 10 1.9 | — | 0 | 0 | 1 0.3 | — | 0 | 0 | 4 1.1 | — | 0 | 0 | 6 1.5 |
| Pickles, sauces and condiments | — | 0 | 0 | 6 1.2 | — | 0 | 0 | 2 0.7 | — | 0 | 0 | 4 1.1 | — | 0 | 0 | 4 1.0 |
| Other foods | — | 0 | 0 | 3 0.6 | — | — | | — | — | — | | — | — | 0 | 0 | 1 0.2 |
| Miscellaneous | — | 0 | 6 | 5 15.1 | — | 0 | 5 | 2 20.4 | — | 0 | 5 | 6 18.9 | — | 0 | 5 | 4 15.8 |
| Luncheons and teas | — | 0 | 0 | 6 1.2 | — | — | | — | — | — | | — | — | 0 | 0 | 2 0.5 |
| Meals taken outside the home | — | — | | — | — | — | | — | — | — | | — | — | — | | — |
| Grand Total [3] | — | 2 | 2 | 6 100.0 | — | 1 | 5 | 4 100.0 | — | 1 | 9 | 1 100.0 | — | 1 | 13 | 10 100.0 |

[1] Except for fresh milk (pint), condensed milk (14oz. tin), and eggs (dozen). Figures for quantities exclude "cake and pastry". [2] Excluding beverages, drinks and tobacco.

## TABLE IV. ANALYSIS OF MONTHLY EXPENDITURE ON FOOD PER UNIT OF CONSUMPTION FOR SELECTED INCOME GROUPS (*cont.*)

| Item | Families with yearly income of: £325 to £350 | | | | £400 to £425 | | | | £475 to £500 | | | | £575 to £600 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of families | 131 | | | | 145 | | | | 89 | | | | 61 | | | |
| Consumption units per family | 3.70 | | | | 4.11 | | | | 4.59 | | | | 4.83 | | | |
| Food group | Quantity[1] | Expenditure | | | Quantity[1] | Expenditure | | | Quantity[1] | Expenditure | | | Quantity[1] | Expenditure | | |
| | lb. | £ | s. | d. Per cent. | lb. | £ | s. | d. Per cent. | lb. | £ | s. | d. Per cent. | lb. | £ | s. | d. Per cent. |
| Bread | 12.32 | 0 | 3 | 4 7.5 | 12.92 | 0 | 3 | 4 7.2 | 12.12 | 0 | 3 | 3 6.9 | 15.18 | 0 | 4 | 0 7.5 |
| Flour and meal | 9.24 | 0 | 1 | 11 4.3 | 8.81 | 0 | 1 | 10 3.9 | 8.43 | 0 | 1 | 8 3.5 | 6.86 | 0 | 1 | 7 3.0 |
| Oatmeal and rolled oats | 1.74 | 0 | 0 | 7 1.3 | 1.54 | 0 | 0 | 6 1.1 | 1.81 | 0 | 0 | 7 1.2 | 1.43 | 0 | 0 | 6 0.9 |
| Rice | 2.54 | 0 | 0 | 7 1.3 | 2.10 | 0 | 0 | 6 1.1 | 2.32 | 0 | 0 | 7 1.2 | 1.92 | 0 | 0 | 5 0.8 |
| Mealie meal | 3.08 | 0 | 0 | 4 0.8 | 2.54 | 0 | 0 | 3 0.5 | 3.14 | 0 | 0 | 4 0.7 | 2.89 | 0 | 0 | 4 0.6 |
| Cake and pastry | — | 0 | 0 | 5 0.9 | — | 0 | 0 | 6 1.1 | — | 0 | 0 | 10 1.7 | — | 0 | 0 | 9 1.4 |
| Bread and cereals[2] | 28.92 | 0 | 7 | 2 16.1 | 27.91 | 0 | 6 | 11 14.9 | 27.82 | 0 | 7 | 3 15.2 | 28.28 | 0 | 7 | 7 14.2 |
| Meat (fresh) | 10.69 | 0 | 6 | 11 15.7 | 10.39 | 0 | 7 | 5 16.0 | 11.61 | 0 | 7 | 8 16.1 | 10.85 | 0 | 8 | 1 15.2 |
| Fish (fresh) | 1.09 | 0 | 0 | 8 1.5 | 1.27 | 0 | 0 | 9 1.6 | 1.48 | 0 | 0 | 10 1.7 | 1.59 | 0 | 1 | 0 1.9 |
| Bacon and ham | 0.51 | 0 | 0 | 8 1.5 | 0.57 | 0 | 0 | 10 1.8 | 0.71 | 0 | 1 | 0 2.1 | 0.72 | 0 | 1 | 0 1.9 |
| Other meats | — | 0 | 0 | 8 1.5 | — | 0 | 0 | 9 1.6 | — | 0 | 0 | 9 1.6 | — | 0 | 0 | 10 1.5 |
| Poultry | — | 0 | 0 | 5 0.9 | — | 0 | 0 | 5 0.9 | — | 0 | 0 | 9 1.6 | — | 0 | 0 | 10 1.5 |
| Fish (dried, smoked or tinned) | — | 0 | 0 | 5 0.9 | — | 0 | 0 | 6 1.1 | — | 0 | 0 | 7 1.2 | — | 0 | 0 | 8 1.3 |
| Meat, fish, etc. | — | 0 | 9 | 9 22.0 | — | 0 | 10 | 8 23.0 | — | 0 | 11 | 7 24.3 | — | 0 | 12 | 5 23.3 |
| Lard, dripping, fat | — | 0 | 0 | 8 1.5 | — | 0 | 0 | 7 1.3 | — | 0 | 0 | 7 1.2 | — | 0 | 0 | 6 0.9 |
| Milk (fresh) | 21.68 | 0 | 5 | 2 11.6 | 21.93 | 0 | 5 | 2 11.1 | 21.76 | 0 | 5 | 1 10.6 | 24.36 | 0 | 5 | 10 11.0 |
| ,, (condensed) | 0.73 | 0 | 0 | 5 0.9 | 0.52 | 0 | 0 | 3 0.5 | 0.37 | 0 | 0 | 3 0.5 | 0.22 | 0 | 0 | 2 0.3 |
| Butter | 2.53 | 0 | 3 | 5 7.7 | 2.68 | 0 | 3 | 9 8.1 | 2.52 | 0 | 3 | 7 7.5 | 3.04 | 0 | 4 | 4 8.1 |
| Cheese | 0.58 | 0 | 0 | 8 1.5 | 0.65 | 0 | 0 | 9 1.6 | 0.58 | 0 | 0 | 9 1.6 | 0.64 | 0 | 0 | 9 1.4 |
| Eggs | 1.48 | 0 | 2 | 2 4.9 | 1.71 | 0 | 2 | 7 5.6 | 1.67 | 0 | 2 | 7 5.4 | 2.05 | 0 | 3 | 2 6.0 |
| Milk, milk products and eggs | — | 0 | 11 | 10 26.6 | — | 0 | 12 | 6 26.9 | — | 0 | 12 | 3 25.6 | — | 0 | 14 | 3 26.8 |
| Sago, tapioca, dried beans | — | 0 | 0 | 4 0.8 | — | 0 | 0 | 3 0.5 | — | 0 | 0 | 4 0.7 | — | 0 | 0 | 4 0.6 |
| Potatoes | 11.92 | 0 | 1 | 2 2.6 | 12.51 | 0 | 1 | 4 2.9 | 11.57 | 0 | 1 | 4 2.8 | 10.32 | 0 | 1 | 3 2.4 |
| Vegetables and fruit (fresh) | — | 0 | 4 | 9 10.6 | — | 0 | 5 | 4 11.5 | — | 0 | 4 | 9 10.0 | — | 0 | 6 | 10 12.8 |
| Fruit (dried or canned) | — | 0 | 0 | 8 1.5 | — | 0 | 0 | 8 1.4 | — | 0 | 0 | 10 1.7 | — | 0 | 1 | 0 1.9 |
| Marmalade and jam | 1.91 | 0 | 0 | 11 2.1 | 1.76 | 0 | 0 | 11 2.0 | 1.92 | 0 | 0 | 11 1.9 | 2.17 | 0 | 1 | 2 2.2 |
| Vegetables and fruit | — | 0 | 7 | 10 17.6 | — | 0 | 8 | 6 18.3 | — | 0 | 8 | 2 17.1 | — | 0 | 10 | 7 19.9 |
| Sugar | 8.61 | 0 | 2 | 4 5.2 | 8.45 | 0 | 2 | 4 5.0 | 8.75 | 0 | 2 | 5 5.0 | 7.52 | 0 | 2 | 2 4.0 |
| Tea | 0.62 | 0 | 1 | 5 3.2 | 0.60 | 0 | 1 | 5 3.1 | 0.60 | 0 | 1 | 5 3.0 | 0.55 | 0 | 1 | 4 2.5 |
| Coffee | 0.45 | 0 | 0 | 7 1.3 | 0.44 | 0 | 0 | 6 1.1 | 0.39 | 0 | 0 | 6 1.0 | 0.30 | 0 | 0 | 5 0.8 |
| Golden syrup | 0.84 | 0 | 0 | 4 0.8 | 0.74 | 0 | 0 | 4 0.7 | 0.72 | 0 | 0 | 4 0.7 | 0.73 | 0 | 0 | 4 0.6 |
| Baking powder | — | 0 | 0 | 5 0.9 | — | 0 | 0 | 5 0.9 | — | 0 | 0 | 4 0.7 | — | 0 | 0 | 5 0.8 |
| Biscuits and sweets | — | 0 | 0 | 11 2.1 | — | 0 | 1 | 0 2.1 | — | 0 | 1 | 1 2.3 | — | 0 | 1 | 2 2.2 |
| Pickles, sauces and condiments | — | 0 | 0 | 6 1.1 | — | 0 | 0 | 6 1.1 | — | 0 | 0 | 8 1.4 | — | 0 | 0 | 7 1.1 |
| Other foods | — | 0 | 0 | 4 0.8 | — | 0 | 0 | 2 0.4 | — | 0 | 0 | 5 0.9 | — | 0 | 0 | 8 1.3 |
| Miscellaneous | — | 0 | 6 | 10 15.4 | — | 0 | 6 | 8 14.4 | — | 0 | 7 | 2 15.0 | — | 0 | 7 | 1 13.3 |
| Luncheons and teas | — | 0 | 0 | 4 0.8 | — | 0 | 0 | 7 1.2 | — | 0 | 0 | 9 1.6 | — | 0 | 0 | 9 1.4 |
| Meals taken outside the home | — | — | | — | — | — | | — | — | — | | — | — | 0 | 0 | 1 0.2 |
| Grand Total[3] | — | 2 | 4 | 5 100.0 | — | 2 | 6 | 5 100.0 | — | 2 | 7 | 9 100.0 | — | 2 | 13 | 3 100.0 |

[1] Except for fresh milk (pint), condensed milk (14oz. tin), and eggs (dozen). [2] Figures for quantities exclude "cake and pastry". [3] Excluding beverages, drinks and tobacco.

Of the total food expenditure, 16.1 per cent. was on cereals and bread, 22.5 per cent. on meat and fish, 1.4 per cent. on lard and fat, 25.9 per cent. on milk, milk products and eggs, 17.8 per cent. on vegetables and fruit, 15.1 per cent. on miscellaneous foods, and 1.2 per cent. on luncheons and teas.

The proportionate expenditure on cereals and bread decreased from one-fourth of the total in the lowest income group to one-seventh in the highest. Bread, flour and meal were the most important items in this food group. Families having small incomes spent relatively more on flour and meal than on bread, while families with higher incomes spent relatively more on bread.

The relative expenditure on meat and fish varied between 20 and 24 per cent. of total food expenditure; on the average 16.1 per cent. was spent on fresh meat (excluding bacon and ham), 1.5 per cent. on fish and bacon and ham, 1.4 per cent. on other meats, 1.0 per cent. on poultry, and 1.0 per cent. on dried, smoked and tinned fish. The consumption of bacon and ham and that of poultry was much higher both absolutely and relatively in families with higher incomes than in families with low incomes.

The average monthly expenditure on milk, milk products and eggs increased from 4s. 4d. in the lowest to 14s. 3d. in the highest income class. Fresh milk was the most important single item, although in the lowest income group more money was spent on condensed milk than on fresh milk. Next in importance came butter and eggs, the consumption of which showed a considerable increase as income increased. Cheese accounted for 1.6 per cent. of the total food budget.

In the vegetable and fruit group fresh fruit was the largest single item, accounting for 11 per cent. of the total food expenditure. As the income per consumption unit increased, the consumption of fresh fruit and vegetables increased while the consumption of potatoes decreased.

Among miscellaneous foods sugar (5.5 per cent.) and tea (2.9 per cent.) were the most important items. Next in importance came biscuits and sweets (1.9 per cent.), coffee (1.4 per cent.), pickles, sauces and condiments (1.2 per cent.); less than one per cent. was spent on golden syrup (0.8 per cent.) and baking powder (0.8 per cent.).

The percentage expenditure on meals taken outside the home (including luncheons and teas) was 1.2 per cent.; it increased with advancing income, being nil in the lower income classes.

## Nutritive Value of Food Consumed

The report contains valuable information as to the nutritive value of the food consumed. Table V (p. 259) analyses the daily consumption of proteins, fats, carbohydrates, calcium, phosphorus and iron by income group and gives the average [1] number of calories consumed per unit of consumption.

[1] In the case of articles the quantities of which had to be estimated from the amounts spent, an upper and a lower range was calculated.

TABLE V. ANALYSIS OF NUTRITIVE CONTENT OF FOOD CONSUMED DAILY PER UNIT OF CONSUMPTION, BY INCOME GROUPS

| Income group | Proteins (grammes) | Fats | Carbo-hydrates | Calcium | Phosphorus | Iron |
|---|---|---|---|---|---|---|

TABLE V. ANALYSIS OF NUTRITIVE CONTENT OF FOOD CONSUMED DAILY PER UNIT OF CONSUMPTION, BY INCOME GROUPS

| Income group | [1]Proteins (grammes) | | | | | | | Fats (grammes) | | Carbo-hydrates (grammes) | | Calcium (milligrammes) | | Phosphorus (milligrammes) | | Iron (milli-grammes) | | Calories | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Milk products | Other animal products | | Vegetable products | | Total | | | | | | | | | | | | | |
| | | From | To | From | To | From | To | From | To | From | To | From | To | From | To | From | To | From | To |
| Families with yearly income of : Up to £125 | 6 | 30 | 30 | 65 | 67 | 101 | 103 | 60 | 68 | 626 | 633 | 494 | 507 | 1,643 | 1,685 | 22 | 23 | 3,576 | 3,683 |
| £150–£175 | 7 | 31 | 32 | 58 | 58 | 96 | 97 | 63 | 72 | 551 | 557 | 494 | 503 | 1,529 | 1,560 | 20 | 21 | 3,282 | 3,396 |
| £200–£225 | 11 | 35 | 36 | 53 | 55 | 99 | 102 | 74 | 82 | 531 | 542 | 673 | 688 | 1,641 | 1,696 | 21 | 22 | 3,323 | 3,453 |
| £250–£275 | 12 | 39 | 40 | 55 | 56 | 106 | 108 | 85 | 97 | 529 | 544 | 758 | 776 | 1,731 | 1,795 | 22 | 23 | 3,453 | 3,634 |
| £300–£325 | 15 | 41 | 43 | 56 | 58 | 112 | 116 | 95 | 108 | 550 | 569 | 895 | 918 | 1,896 | 1,984 | 24 | 25 | 3,655 | 3,864 |
| £350–£375 | 17 | 45 | 47 | 57 | 59 | 119 | 123 | 108 | 121 | 566 | 588 | 997 | 1,022 | 1,990 | 2,086 | 25 | 26 | 3,875 | 4,101 |
| £400–£425 | 17 | 45 | 47 | 56 | 58 | 118 | 122 | 107 | 122 | 555 | 577 | 1,012 | 1,034 | 1,967 | 2,058 | 24 | 26 | 3,823 | 4,056 |
| £450–£475 | 17 | 47 | 50 | 56 | 58 | 120 | 125 | 109 | 124 | 553 | 580 | 1,048 | 1,075 | 2,013 | 2,125 | 25 | 26 | 3,837 | 4,092 |
| £500–£525 | 17 | 49 | 51 | 52 | 55 | 118 | 123 | 111 | 125 | 530 | 557 | 1,054 | 1,082 | 1,978 | 2,090 | 25 | 26 | 3,751 | 4,009 |
| £550–£575 | 17 | 49 | 51 | 52 | 55 | 118 | 123 | 112 | 127 | 544 | 571 | 1,013 | 1,040 | 1,966 | 2,079 | 24 | 26 | 3,815 | 4,074 |
| £575–£600 | 18 | 50 | 54 | 58 | 60 | 126 | 132 | 117 | 131 | 558 | 587 | 1,105 | 1,135 | 2,088 | 2,210 | 26 | 28 | 3,956 | 4,216 |
| Total | 15 | 43 | 45 | 56 | 58 | 114 | 118 | 98 | 110 | 554 | 574 | 914 | 934 | 1,887 | 1,970 | 24 | 25 | 3,710 | 3,913 |

TABLE VI. ANALYSIS OF AVERAGE MONTHLY EXPENDITURE PER FAMILY ON MISCELLANEOUS ITEMS, IN SELECTED INCOME GROUPS

| Item | All families | | Families with yearly income | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to £125 | | £175 to £200 | | £250 to £275 | | £325 to £350 | | £400 to £425 | | £475 to £500 | | £575 to £600 | |
| | £ s. d. | Per cent. | £ s. d. | Per cent. | £ s. d. | Per cent. | £ s. d. | Per cent. | £ s. d. | Per cent. | £ s. d. | Per cent. | £ s. d. | Per cent. | £ s. d. | Per cent. | £ s. d. | Per cent. |
| Direct taxes | 2 | 1.7 | 0 0 3 | 0.9 | 0 0 10 | 1.6 | 0 2 2 | 1.8 | 0 2 8 | 1.6 | 0 3 6 | 1.6 | 0 3 4 | 1.3 | 0 4 5 | 1.3 |
| Medical expenses, chemists' bills, etc. | 0 19 7 | 10.6 | 0 4 2 | 14.8 | 0 6 2 | 12.1 | 0 14 0 | 11.7 | 0 18 9 | 11.1 | 1 2 10 | 10.6 | 1 9 1 | 11.0 | 1 11 1 | 9.4 |
| Hairdressing, toilet | 0 5 1 | 2.7 | 0 1 2 | 4.1 | 0 2 3 | 4.4 | 0 3 7 | 3.0 | 0 5 0 | 3.0 | 0 5 6 | 2.6 | 0 7 3 | 2.7 | 0 8 9 | 2.6 |
| Insurance | 1 9 2 | 15.8 | 0 2 11 | 10.3 | 0 5 3 | 10.3 | 0 16 9 | 13.9 | 1 4 10 | 14.7 | 1 13 10 | 15.7 | 1 15 4 | 13.3 | 2 12 9 | 15.9 |
| Other subscriptions | 0 1 2 | 0.6 | 0 0 1 | 0.3 | 0 0 6 | 1.0 | 0 1 0 | 0.8 | 0 1 3 | 0.7 | 0 1 4 | 0.6 | 0 0 11 | 0.3 | 0 1 1 | 0.3 |
| Pension contributions | 0 18 7 | 10.1 | 0 6 3 | 22.1 | 0 5 10 | 11.5 | 0 13 8 | 11.2 | 0 17 4 | 10.3 | 1 2 3 | 10.3 | 1 4 11 | 9.4 | 1 3 4 | 7.1 |
| Education | 0 7 10 | 4.2 | 0 0 2 | 0.6 | 0 1 3 | 2.5 | 0 3 9 | 3.1 | 0 6 8 | 3.9 | 0 9 4 | 4.3 | 0 11 6 | 4.3 | 1 0 7 | 6.2 |
| Telephones | 0 1 4 | 0.7 | — | — | 0 0 2 | 0.3 | 0 0 6 | 0.4 | 0 1 0 | 0.6 | 0 1 6 | 0.7 | 0 2 6 | 0.9 | 0 3 10 | 1.2 |
| Stationery, stamps | 0 2 2 | 1.2 | 0 0 9 | 2.7 | 0 1 1 | 2.1 | 0 1 7 | 1.3 | 0 2 3 | 1.3 | 0 2 6 | 1.2 | 0 2 8 | 1.0 | 0 3 3 | 1.0 |
| Newspapers, books, etc. | 0 4 11 | 2.7 | 0 0 2 | 0.6 | 0 1 6 | 3.0 | 0 2 6 | 2.1 | 0 4 10 | 2.9 | 0 6 5 | 3.0 | 0 6 8 | 2.5 | 0 8 3 | 2.5 |
| Holidays | 0 6 3 | 3.4 | 0 0 1 | 0.3 | 0 0 1 | 0.2 | 0 1 9 | 1.5 | 0 4 2 | 2.5 | 0 6 10 | 3.2 | 0 10 7 | 4.0 | 0 18 3 | 5.5 |
| Amusements | 0 5 1 | 2.7 | — | — | 0 1 2 | 2.3 | 0 2 1 | 1.7 | 0 4 5 | 2.6 | 0 5 6 | 2.6 | 0 7 10 | 3.0 | 0 13 1 | 4.0 |
| Sport | 0 2 6 | 1.4 | — | — | 0 0 2 | 0.3 | 0 0 11 | 0.8 | 0 2 3 | 1.3 | 0 2 10 | 1.3 | 0 3 9 | 1.4 | 0 6 0 | 1.8 |
| Transport | 1 0 2 | 10.9 | 0 2 7 | 9.1 | 0 5 3 | 10.3 | 0 11 7 | 9.6 | 0 17 9 | 10.5 | 1 2 6 | 10.4 | 1 15 1 | 13.2 | 2 0 3 | 12.2 |
| Donations | 0 6 5 | 3.5 | 0 1 4 | 4.7 | 0 1 11 | 3.8 | 0 4 0 | 3.3 | 0 5 10 | 3.4 | 0 7 3 | 3.4 | 0 11 0 | 4.1 | 0 13 4 | 4.0 |
| Servants' wages | 0 18 6 | 10.0 | 0 0 3 | 0.9 | 0 2 3 | 4.4 | 0 11 3 | 9.3 | 0 18 4 | 10.8 | 1 3 9 | 11.0 | 1 8 2 | 10.6 | 1 14 7 | 10.5 |
| Gardening, poultry | 0 2 2 | 1.2 | 0 0 10 | 2.9 | 0 0 10 | 1.6 | 0 1 5 | 1.2 | 0 1 10 | 1.1 | 0 2 3 | 1.0 | 0 3 0 | 1.1 | 0 4 11 | 1.5 |
| Children's pocket-money | 0 2 3 | 1.2 | 0 0 3 | 0.9 | 0 0 8 | 1.3 | 0 1 2 | 1.0 | 0 1 10 | 1.1 | 0 3 0 | 1.4 | 0 4 2 | 1.6 | 0 4 4 | 1.3 |
| Hire purchase | 1 7 1 | 14.7 | 0 7 0 | 24.8 | 0 13 6 | 26.7 | 1 6 1 | 21.7 | 1 7 7 | 16.3 | 1 10 4 | 14.1 | 1 15 8 | 13.4 | 1 17 0 | 11.2 |
| Other expenditure | 0 1 3 | 0.7 | — | — | 0 0 2 | 0.3 | 0 0 8 | 0.6 | 0 0 6 | 0.3 | 0 2 3 | 1.0 | 0 2 5 | 0.9 | 0 1 7 | 0.5 |
| Total | 9 4 8 | 100.0 | 1 8 3 | 100.0 | 2 10 10 | 100.0 | 6 0 5 | 100.0 | 8 9 1 | 100.0 | 10 15 6 | 100.0 | 13 5 10 | 100.0 | 16 10 8 | 100.0 |

The following passages are taken from a special report on dietary findings (given in an Appendix to the main report by Dr. F. W. Fox of the Department of Biochemistry, South African Institute of Medical Research, and Dr. T. W. B. Osborn of the Department of Physiology of the University of Witwatersrand.

An energy supply of from 3,400 to 4,000 calories per day is generous for persons doing sedentary or light manual work, it is adequate for persons doing moderately strenuous manual work, but it would not be adequate for persons engaged in very severe, prolonged labour.... In view of the high proportion of women and children in the groups, it is unlikely that the average " man-unit " output of energy corresponds with more than " moderately strenuous manual work. ".... It is unlikely that many cases go short of calories.

The proportions of protein, fat and carbohydrate are within what are generally considered to be normal limits. In the case of protein.... 100 grammes per day is adequate if the protein is of high nutritional value, but it is grossly inadequate for poor proteins. Those income groups which obtain a fair amount of their protein from milk are safe in this respect, those who take little milk are much more liable to a protein deficiency. The relatively high expenditure on meat reduces the danger of protein deficiency—it is satisfactory that this expenditure is nearly constant through the different income groups.

As far as the figures were obtainable, the intake of minerals gives no cause for alarm except in the case of calcium in the lower income groups....

A monotonous diet, such as that of the poorer groups, is very liable to serious deficiencies : deficiencies of a mineral constituent, a vitamin or an amino-acid, or, more probably, a subtle combination of several deficiencies.... Two classes of foodstuffs are particularly valuable in guarding against these deficiencies—leafy vegetables.... and milk.... The expenditure on the item " vegetables and fresh fruit " is relatively high, but there being no details as to what vegetables and fruits are bought, it is impossible to estimate what amount of really valuable food is consumed in this category. The position regarding the consumption of milk is highly unsatisfactory. It is to be deplored that there should be such a falling off of money spent on milk from the richer to the poorer classes. More than half the families in the poorer group never see milk—families containing several children who have a special need of milk. It is very unlikely that many of these families are escaping from serious nutrition deficiencies.

## Housing

Information is available concerning the type of dwellings inhabited by the families under review. Of the 1,618 households, 1,515 lived in houses and 103 in flats. Of the 1,515 houses, 932 were rented, 258 owned and 325 were being acquired under hire-purchase agreements. The percentage of families which owned or acquired houses increased as incomes advanced from 17 per cent. of families with incomes below £200 a year to 55 per cent. of families with incomes between £500 and £600, averaging 36 per cent.

The dwellings contained on the average 3.89 rooms (exclusive of kitchen, bathroom and pantry) besides 0.68 " outside " rooms. The

number of persons (excluding servants) per room (excluding kitchen) varied from 1.60 in the lowest income class to 1.02 in the highest.[1] Details are also given as regards the equipment and conveniences of the dwellings, such as installation of water, sewerage, hot water, electric stoves, refrigerators, etc.

On the whole the flats appeared to have more conveniences than the houses.

### Miscellaneous Expenditure

The expenditure on various miscellaneous items is analysed in table VI for the same selected income groups as were considered in table IV. Of total expenditure 30.8 per cent. was for miscellaneous items. The most important expenses were insurance (15.8 per cent. of miscellaneous expenditure), hire-purchase [2] (14.7 per cent.), transport (10.9 per cent.), medical expenses and chemists' bills, etc. (10.6 per cent.), pension contributions (10.1 per cent.) and servants' wages (10.0 per cent.). Next in importance came education (4.2 per cent.). donations (3.5 per cent.) and holidays (3.4 per cent.); approximately equal amounts (2.7 per cent.) went for hairdressing and toilet expenses and for newspapers, books, etc.; direct taxes accounted for 1.7 per cent. of total miscellaneous expenditure; and less than 1.5 per cent. represented other items.

While the absolute amounts spent on the various items increased with increasing income the percentage expenditure showed varying trends. The relative expenditure on education, telephone, newspapers, books, holidays, amusements, sport, and servants' wages, increased with increasing income, the percentage spent on these items by families with higher incomes being very much higher than the percentages spent in lower income classes. The same is true, though in a lesser degree, for expenditure on taxes, insurance and transport. Items in respect of which the relative expenditure decreased with advancing income were hairdressing and toilet, pension contributions, stationery and stamps, gardening, and hire-purchase. Expenditure on transport, donations and children's pocket-money did not show any marked trend as the amount of family income varied.

---

[1] The following adjustments were made in calculating these figures. For each household the number of rooms let was deducted from the total number of rooms. The number of servants was deducted from the number of outside rooms. Where there was a servant but no outside room, it was assumed that the servant slept elsewhere or that an outside room had been omitted.

[2] Of the total average for all families under this heading, 8s. 4d. was for furniture, 3s. 4d. for motor car, 3s. 4d. for radio, 2s. 8d. for refrigerator, 5s. 7d. represented payments in excess of the estimated value of the rent (see above), 1s. 4d. for electric stove, 9d. for cycle, 3d. for sewing machine.

# BIBLIOGRAPHY

## Book Notes

### INTERNATIONAL PUBLICATIONS

**Bureau international de l'enseignement technique.** *Congrès international de l'enseignement technique, Rome, 28-30 décembre 1936.* Volume II. *Rapports déposés.* Paris, 1,305 pp.

Contains the reports presented to the Sixth International Congress on Technical Education which was held in Rome from 28 to 30 December 1936, under the auspices of the International Technical Education Office. (Cf. *Industrial and Labour Information*, Vol. LXI, No. 10, 8 March 1937, pages 321-323.)

**International Archives for the Women's Movement. International Archief voor de Vrouwenbeweging.** *Yearbook. Jaarboek.* I. Leiden, 1937. XVI + 175 pp.

This is the first year-book published by the International Archives for the Women's Movement since its foundation in 1935. It contains, in addition to information on the activities of the organisation and a bibliography, articles on the history of the women's movement in the Netherlands and in France, and on the economic position of Austrian women of the middle class in industry and the professions, statistical data on the activities of women in the Netherlands, and an article on women's work in undertakings for the bleaching and finishing of linen and thread in the Netherlands from the later part of the sixteenth century down to the nineteenth century.

**International Federation of Building and Sawmill Workers.** *First International Conference of Timber and Sawmill Workers, Warsaw, 12-13 October 1937.* 9 pp. typescript.

A note on the first International Conference of Forestry and Sawmill Workers appeared in *Industrial and Labour Information*, Vol. LXIV, No. 10, 6 December 1937, pages 372-373.

**Internationaler Bund der Bau- und Holzarbeiter.** *Kapital und Arbeit im Tropenwald.* Internationale Konferenz der Wald- und Sägewerksarbeiter, Warschau, 12-14 Oktober 1937. Bericht II. Amsterdam, 1937. 42 pp., typescript.

This report, which was submitted to the International Conference of Forestry and Sawmill Workers held in Warsaw in October 1937, contains studies of labour conditions among timber workers in the tropics. Although originally published in 1928 and 1930, the descriptions of social and economic conditions are claimed to be on the whole still valid. The last chapter describes the activities of the International Labour Organisation in the development of social legislation for indigenous workers, and advances the following claims for timber workers: (1) introduction of wage-books and control by labour inspectorates; (2) prohibition of the truck system; (3) improvement of accommodation and rations; (4) improvement of methods of work with a view to lightening manual labour, safety and health measures and the prohibition of the employment of young persons.

—— *Das Holz in der Urproduktion und im Welthandel.* Internationale Konferenz der Wald- und Sägewerksarbeiter, Warschau, 12.-14. Oktober 1937. Bericht I, Erster Teil. 38 pp. Zweiter Teil. 125 pp., typescript. Amsterdam, 1937.

—— *Löhne und Arbeitsbedingungen der Wald- und Sägewerksarbeiter in verschiedenen Ländern.* Internationale Konferenz der Wald- und Sägewerksarbeiter, Warschau, 12.-14. Oktober 1937. Bericht III. Amsterdam, 1937. 49 pp., typescript.

**Pan-American Union. Division of Agricultural Co-operation.** *The Marketing of Grain in the United States.* By J. W. CUMMINS. Series on Co-operatives. No. 7. Washington, 1937. 11 pp., typescript.

## OFFICIAL PUBLICATIONS

### AUSTRALIA

**Commonwealth Bureau of Census and Statistics.** *Census of the Commonwealth of Australia, 30 June 1933.* Part XXIII. *Occupation.* Pp. 1536-1647. Part XXIV. *Grade of Occupation.* Pp. 1652-1689. Canberra, 1937.

**International Labour Organisation of the League of Nations.** *Twenty-first and Twenty-second (Maritime) Sessions of the International Labour Conference, held at Geneva 6-24 October 1936. Reports of the Australian Delegates.* Canberra, 1936. 28 pp.

This report was analysed in *Industrial and Labour Information*, Vol. LXIII, No. 6, 9 August 1937, pages 165-166.

*NEW SOUTH WALES*

**Department of Labour and Industry.** *Report on the Working of the Factories and Shops Act during the Year 1936.* Sydney, 1937. 26 pp. 2s.

### BOLIVIA

**Ministerio de Educacion y Asuntos Indigenas.** *Orientacion agricola de las escuelas indigenales. Respuesta a las observaciones de la Sociedad Rural Boliviana.* La Paz, 1937. 43 pp.

### CANADA

**Department of Labour.** *Report for the Fiscal Year ending 31 March 1937.* Ottawa, 1937. 98 pp. 25 cents.

—— *Twenty-sixth Annual Report on Labour Organisation in Canada. (For the Calendar Year 1936.)* Ottawa, 1937. 240 pp. 50 cents.

### CZECHOSLOVAKIA

**Office de statistique.** *Recensement de la population dans la République tchécoslovaque du 1er décembre 1930.* IIe tome. *Profession de la population.* 2me partie. *Profession par âge et par état matrimonial, profession d'après la grandeur du lieu de résidence, profession objective, employés publics, profession accessoire, chômage.* La statistique tchécoslovaque, 113e volume, VIe série, 9me livraison. Prague, 1935. 419 pp.

### FIJI

**Secretary for Indian Affairs.** *Annual Report for 1936.* Suva, 1937. 2 pp.

### FINLAND

**Statistiska Centralbyran.** *A Tapaturmatilastoa. Työssa sattuneet Tapaturmat, Vuonna 1934. Olycksfallsstatistik. Olycksfallen i Arbetet. Ar 1934. Statistique d'accidents. Accidents du travail en 1934.* Nouvelle série 8. Helsingfors, 1937. 51 pp.

### FRANCE

**Conseil national économique.** *Le mouvement coopératif agricole et ses possibilités de développement.* Conclusions adoptées par le Conseil national économique dans sa session des 15 et 16 mars 1937, et Rapport présenté par André Cramois, inspecteur général à la Caisse nationale de crédit agricole, et Robert Labbé, inspecteur des finances. Melun, Imprimerie administrative, 1937. 56 pp. 5 frs.

This pamphlet contains a report presented to the French National Economic Council by Messrs. André Cramois and Robert Labbé on the legal status of agricultural co-operative societies, their financial system, and measures to facilitate their development. It also reproduces the conclusions of the Council based on this report, and gives in an appendix an attempted codification of the present legislation relating to agricultural co-operative societies and their unions.

**Ministère des affaires étrangères.** *Rapport à la Société des Nations sur la situation de la Syrie et du Liban. (Année 1936.)* Paris, 1937. xvii + 273 pp.

**Ministère de l'intérieur. Œuvre d'encouragement à la prévention du feu.** *Le feu et ses dangers. Petit guide pratique de la sécurité avant, pendant, après l'incendie.* Par R. J. DUMONT. Illustration et mise en pages par J. G. SÉRUZIER. Paris, Centre national d'organisation scientifique du travail, Commissions de lutte contre la destruction, 1937. 50 pp., illustr.

**Ministère de la santé publique. Commission technique de l'habitation.** *L'habitation en France. Conditions de construction et d'aménagement des habitations aux points de vue technique, sanitaire et législatif.* Paris, 1937. 350 pp.

## GREAT BRITAIN

**Colonial Office.** *Information as to the Conditions and Cost of Living in the Colonial Empire.* (3rd edition.) London, H.M. Stationery Office, 1937. IV + 223 pp. 3s. 6d.

—— **Mui Tsai Commission.** *Mui Tsai in Hong Kong and Malaya. Report of Commission.* London, H.M. Stationery Office, 1937. VIII + 314 pp. 5s.

The Commission was appointed in March 1936 to investigate the whole question of *mui tsai* in Hong Kong and Malaya and of any surviving practices in those territories of transferring women and children for valuable consideration. A summary of its findings was given in *Industrial and Labour Information*, Vol. LXIV, No. 11, 13 December 1937, pages 396-398.

**Commission on Higher Education in East Africa.** *Report of the Commission appointed by the Secretary of State for the Colonies, September 1937.* London, H.M. Stationery Office, 1937. 136 pp., map. 2s. 6d.

Among the questions examined in this Report is that of the economic prospects of educated Africans. The Commissioners deprecate the assumption in some quarters that an African need never be paid more than is required to maintain traditional standards and recommend that the Governments should formulate a salary scale providing an adequate living wage at the bottom and a complete ladder to the grade at present staffed by European university graduates.

**Department of Overseas Trade.** (a) *Report on Economic and Commercial Conditions in Algeria.* By G. P. CHURCHILL, C.B.E. *1936.* VIII + 38 pp. 9d. (b) *Report on Economic and Commercial Conditions in Angola (Portuguese West Africa).* By F. O'MEARA. *February 1937.* VI + 42 pp. 9d. (c) *Report on Economic and Commercial Conditions in the Argentine Republic.* By E. R. LINGEMAN. *June 1937.* XIV + 231 pp. 4s. (d) *Report on Economic and Commercial Conditions in Belgium.* By N. S. REYNTIENS, O.B.E. Together with an *Annex on the Grand Duchy of Luxemburg.* By F. P. LIST. *June 1937.* X + 115 pp. 2s. (e) *Report on Economic and Commercial Conditions in the British Dependencies in West Africa. (The Gambia, Sierra Leone, The Gold Coast and Nigeria.)* By H. F. GURNEY. *November 1936 to March 1937.* IV + 81 pp. 1s. 3d. (f) *Report on Economic and Commercial Conditions in British East Africa (Kenya Colony and Protectorate, Uganda Protectorate, Tanganyika Territory and Zanzibar).* By A. E. POLLARD. Together with an *Annex on the Somaliland Protectorate.* By C. H. F. PLOWMAN, C.M.G., O.B.E. *April 1936-June 1937.* VIII + 75 pp. 1s. 6d. (g) *Report on Economic and Commercial Conditions in the British West Indies, British Guinea, British Honduras and Bermuda.* By W. D. LAMBIE and C. M. PICKTHALL, *May 1937.* X + 125 pp. 2s. (h) *Report on Economic and Commercial Conditions in Bulgaria.* By R. B. B. TOLLINGTON. *1935-36.* IX + 47 pp. 1s. (i) *Report on Economic and Commercial Conditions in China.* By Sir Louis BEALE, K.C.M.G., C.B.E. With an *Annex on Economic Conditions in Hongkong.* By G. CLINTON PELHAM. *April 1935-March 1937.* VII + 72 pp. 1s. 3d. (j) *Report on Economic and Commercial Conditions in Cuba.* By L. BARNETT and W. H. BUNBURY. *August 1937.* VII + 27 pp. 9d. (k) *Report on Economic and Commercial Conditions in the Republic of Guatemala.* By A. S. FORDHAM. *July 1937.* VIII + 18 pp. 6d. (l) *Report on Economic and Commercial Conditions in Iceland.* By J. BOWERING. *September 1937.* VIII + 35 pp. 9d. (m) *Report on Economic and Commercial Conditions in New Zealand.* By R. BOULTER, C.M.G., and T. G. A. MUNTZ. *July 1937.* VIII + 141 pp. 2s. 6d. (n) *Report on Economic and Commercial Conditions in Roumania.* By Alexander ADAMS, C.B.E. *May 1937.* VIII + 50 pp. 1s. London, H.M. Stationery Office, 1937.

**Home Office. Factory Department.** *Memorandum on Safety Measures required in the Use of Acetylene Gas and in Oxy-acetylene Processes in Factories.* London, H.M. Stationery Office, 1937. 11 pp. 2d.

**India Office.** *East India (Progress and Condition). Statement exhibiting the Moral and Material Progress and Condition of India during the Year 1934-35.* London, H.M. Stationery Office, 1937. xiv+145 pp. 2s. 6d.

**Mines Department.** *Explosions in Coal Mines. A Comparison between Great Britain and France.* Report by Major H. M. Hudspeth, D.S.O., M.C. London, H.M. Stationery Office, 1937. 29 pp. 6d.

—— *Sixteenth Annual Report of the Secretary for Mines for the Year ended 31 December 1936, and the Twenty-ninth Annual Report of H.M. Chief Inspector of Mines for the Same Period, with a Statistical Appendix to both Reports.* London, H.M. Stationery Office, 1937. 246 pp. 4s.

**Ministry of Agriculture and Fisheries.** *Report of Proceedings under the Agricultural Wages (Regulation) Act, 1924. For the Year ended 30 September 1936.* London, H.M. Stationery Office, 1937. 59 pp. 1s.

**Ministry of Health.** *Housing and Town and Country Planning.* Extracts from the Annual Report of the Ministry of Health for 1936-37, together with additional particulars of Town Planning Appeals. London, H.M. Stationery Office, 1937. 71 pp. 1s.

## HUNGARY

**Orszagos Tarsadalombiztositó Intézet.** *Az Orszagos Tarsadalombiztositó Intézet jelentése 1935. évi. Balesetelharitasi Tevékenységéről. Az 1935. évben bejelentett balesetek statisztikaja. Compte rendu de l'Institut national d'assurances sociales pour 1935, sur l'activité de la prévention des accidents. Statistique des accidents déclarés en 1935. Jahresbericht der Landes-Sozialversicherungs-Anstalt über die Unfallverhütungstätigkeit im Jahre 1935. Statistik der im 1935 gemeldeten Unfälle.* Budapest, 1937. 75 pp.

## INDIA

### *ASSAM*

*Annual Report on the Working of the Tea Districts Emigrant Labour Act (XXII of 1932) for the Year ending 30 September 1936.* Shillong, 1937. 39 pp., map. 5 annas or 6d.

*Report on the Working of the Factories Act in Assam for the Year 1936.* Shillong, 1937. 30 pp. 15 annas or 1s.4d.

### *DELHI*

*Annual Report of the Working of the Indian Factories Act in Delhi Province for the Year 1936.* New Delhi, 1937. 5+viii pp.

### *HYDERABAD*

*Factories and Boilers Inspection Department. Report on the Administration of Factories and Boilers Inspection Department of H.E.H. the Nizam's Government for the Year 1344 Fasli (6 October 1934 to 6 October 1935). (With the Government Review thereon.)* Hyderabad, 1936. 17 pp., tables.

### *MADRAS*

**Development Department.** *Annual Report on the Working of the Indian Emigration Act, 1922, for the Year 1936.* Delhi, 1937. 28 pp. 9 annas or 1s.

—— *Report on the Working of the Factories Act, 1934, in the Madras Presidency for the Year 1936, with a Note on the Administration of the Madras Maternity Benefit Act.* Madras, 1937. 30 pp. 8 annas.

*NORTH-WEST FRONTIER PROVINCE*

*Annual Report on the Working of the Indian Factories Act in the North-West Frontier Province for the Year 1936.* Peshawar, 1937. 6+VIII pp. 5 annas or 6d.

*PUNJAB*

*Annual Report on the Working of the Indian Factories Act in the Punjab for the Year 1936.* Lahore, 1937. 15+XXVI pp. 6 annas or 7d.

**IRELAND**

**Department of Industry and Commerce.** *Statistical Abstract 1937.* Dublin, Stationery Office, 1937. XVI+198 pp. 2s. 6d.

**JAPAN**

*Report by the Imperial Japanese Government to the Council of the League of Nations on the Administration of the South Sea Islands for the Year 1936.* VI+24 pp., map.

**Shakai Kyoku.** (Bureau of Social Affairs.) *Dai 23 Kai Kokusai Rodo Sokai Gaikyo.* (Abridged Report of the Twenty-third Session of the International Labour Conference.) Tokyo, 1937. 99 pp.

**KENYA**

*Annual Report on Native Affairs 1936.* Nairobi, 1937. 213 pp. 3s.
This publication includes the Report of the Labour Section, a summary of which was given in *Industrial and Labour Information*, Vol. LXIV, No. 11, 13 December 1937, pages 398-400.

**Committee on the Working of the Resident Native Labourers Ordinance, 1925.** *Report.* Nairobi, 1937. 34 pp.

**Native Registration and Statistical Sections.** *Annual Migration Summary for the Year 1936.* 7 pp., tables. Typescript.

**MAURITIUS**

**Immigration Department.** *Annual Report of the Protector of Immigrants for the Year 1936.* Port Louis, 1937. 17 pp., tables. 25 cents.

**NETHERLANDS**

**Departement van Sociale Zaken.** *Centraal Verslag der Arbeidinspectie in het Koninkrijk der Nederlanden over 1936.* The Hague, 1937. XII+363+XI pp.

—— *Jaarsverslag der inspectie van den havenarbeid over 1936.* The Hague, 1937. 46 pp.

*NETHERLANDS INDIES*

**Kantoor van Arbeid.** *Zestiende Verslag van de Arbeidsinspectie (1933, 1934, 1935 en 1936).* Batavia, 1937. 173 pp.

**NEW ZEALAND**

*International Labour Conference, Twenty-third Session, Geneva, 3-23 June 1937. Report of New Zealand Government Delegation.* Wellington, 1937. 67 pp. 1s. 6d.

*Seventeenth Report of the Government of New Zealand on the Administration of the Mandated Territory of Western Samoa for the Year ended 31 March 1937.* Wellington, 1937. 31 pp., tables, diagrams.

**POLAND**

**Glowny urzad statystyczny.** *Drugi powszechny spis ludnosci z dn. 9.XII.1931 R. Mieszkania i gospodarstwa domowe. ludnosc. stosunki zawodowe. Miasto St. Warszawa.* Warsaw, 1937. XXXI+289 pp.

## PORTO RICO

**Department of Labor.** *Annual Report of the Commissioner of Labor submitted to the Governor of Puerto Rico.* San Juan, 1937. 161 pp.

## SWEDEN

**Jordbruksdepartementet.** *Betänkande med förslag angaende den fasta lantbruksundervisningens ordnande avgivet av 1936 ars Lantbruksundervisningskommitté.* Statens offentlinga utredningar 1937, 33. Stockholm, 1937. 270 pp.

Report on the organisation of technical education in agriculture in Sweden.

**Riksförsakringsanstalten.** *Olycksfall i arbete, ar 1934.* Sveriges Officiella Statistik. Socialstatistik. Stockholm, 1937. 51 pp.

**Socialdepartementet.** *Betänkande med förslag angaende inrättande av ett statens institut för folkhälsan, avgivet av tillkallade sakkunniga.* Statens offentliga utredningar 1937 : 31. Stockholm, Beckmans, 1937. 78 pp.

This report of a committee of experts appointed by the Swedish Minister of Social Affairs contains detailed proposals for the creation of a State Social Hygiene Institute. The institute, which would be governed by a board of eight members, including a representative of the department responsible for labour inspection, should be given the character of an " institute for national health ", and should aim primarily at preventive action. Its field of activity would comprise general hygiene (in the first place as regards housing), industrial hygiene and safety, and nutrition, and it would be organised accordingly in three sections. The institute would undertake investigation and research both independently and on behalf of the authorities, and for the general public. It would organise courses in social hygiene, social medicine and industrial hygiene for medical officers of health, district nurses, public health inspectors, and the officials of the labour inspectorate, and also carry on health propaganda. In conjunction with the Caroline College of Medicine at Stockholm it would undertake the training of medical students.

## SWITZERLAND

**Eidg. Volkswirtschaftsdepartement. Preisbildungskommission.** *Die Verhältnisse im schweizerischen Lebensmittelkleinhandel.* (4. Heft.) Sonderheft 28 der Volkswirtschaft. Berne, 1937. 70 pp.

## UNION OF SOUTH AFRICA

**Department of Native Affairs.** *Report for the Years 1935-1936.* Pretoria, 1937. II+184 pp., tables. 9s.

This publication includes the report of the Director of Native Labour which gives information on the number of Natives in mining and other employment, recruiting, and workmen's compensation.

**Native Affairs Commission.** *Report for the Year 1936.* Pretoria, 1937. 25 pp., diagram. 3s.

Among the questions considered in this report is that of the effect of recent legislation on the urban labour problem. The Commission found the general state of the labour market chaotic, with a growing redundancy of labour. It examined the proposals for limiting the urban labour supply, eventually adopted by Parliament as the Native Laws Amendment Act, and commended their objects.

**Office of Census and Statistics.** *Census of Industrial Establishments. Statistics of Factories and Productive Industries (excluding Mining and Quarrying) in the Union for the Year 1934-35.* (Eighteenth Industrial Census.) Pretoria, 1937. XXIII+81 pp. 3s. 6d.

## UNITED STATES

**National Resources Committee. Sub-Committee on Technology.** *Technological Trends and National Policy. Including the Social Implications of New Inventions.* Washington, Govt. Printing Office, 1937. VIII + 388 pp. $1.

This report describes the new inventions which may affect living and working conditions in the United States in the next ten to twenty-five years, and indicates

some of the problems which may arise from the adoption and use of these inventions. The first part is devoted to the social aspects of technology and its relation to planning ; the second considers the relation of science to technological trends, and the third contains a survey of the more significant inventions. The report emphasises the importance of national effort to bring about prompt adjustment of these changing situations with the least possible social suffering and loss, and indicates some of the lines of national policy directed to this end.

**Works Progress Administration. National Youth Administration.** *Youth. A World Problem. A Study in World Perspective of Youth Conditions, Movements and Programs,* By W. Thatcher WINSLOW. Foreword by Aubrey WILLIAMS. Washington, Govt. Printing Office, 1937. xv + 138 pp. 25 cents.

A comprehensive report on the efforts being made in 58 countries to cope with the problem of young persons. The information is based on material furnished by the American Consuls stationed in the principal cities of the world and the Grey-Blue Report (1935) of the International Labour Office on *Unemployment among Young Persons.* The data are presented under countries and under subject headings to show what the different countries are doing along certain lines. The Draft Recommendation of the International Labour Office concerning unemployment among young persons is included in the appendix, together with the recommendation of the first World Youth Congress held in Geneva in 1936.

*INDIANA*

**Department of Public Instruction.** *Vocational Rehabilitation.* Bulletin No. 118. Indianapolis. 39 pp., illustr.

Contains general information for those seeking rehabilitation, vocational guidance and employment, together with some particulars of rehabilitation and placement programmes in the State of Indiana.

*PENNSYLVANIA*

**Labor and Industry Department.** *44-Hour Week Laws.* Harrisburg, 1937. 32 pp., illustr.

Analysis of two new laws putting into effect in the State of Pennsylvania a general 44-hour week for men, and amending the Law relating to women workers in order to provide for a 44-hour week also for them.

**YUGOSLAVIA**

**Central Workmen Insurance Office.** *Workmen Insurance in the Kingdom of Yugoslavia.* Zagreb, 1937. 32 pp., illustr., map.

This volume describes the activities of the Yugoslav central workers' insurance institution during the first fifteen years of its existence. The Central Office administers the industrial accident and the invalidity, old-age and widows' and orphans' insurance schemes (the latter has been in operation since 1 September 1937). The sickness and maternity insurance system is administered by 17 local workers' insurance institutions under the control of the Central Office ; these institutions also act as local agencies of the Central Office in the matter of industrial accident insurance and invalidity, old-age and widows' and orphans' insurance. After a historical account of the development of the different branches of social insurance and the relevant legislation, the work describes the present situation of social insurance in Yugoslavia and the results of its application. The average number of insured persons, which has risen steadily since 1935, was 616,209 in 1936 (maximum 656,952 in November of that year). In 1936 the number of accidents was 17,332 ; at 31 December 1936 the Central Office was paying 20,838 pensions to victims of industrial accidents. The financial resources of the Central Office at that date amounted to 540,000,000 dinars.

## NON-OFFICIAL PUBLICATIONS

**Allgemaine Verband für das landwirtschaftliche Genossenschaftswesen in Österreich.** *Bericht über die Tätigkeit des Allgemeinen Verbandes für das landwirtschaftliche Genossenschaftswesen in Österreich im Jahre 1936.* Vienna, 1937. 95 pp.

**American Federation of Labor.** *Report of the Executive Council to the Fifty-seventh Annual Convention, Denver, Colorado, 4 October 1937.* Washington. 160 pp.

—— *Report of Proceedings of the Fifty-seventh Annual Convention of the American Federation of Labor held at Denver, Colorado, 4-15 October inclusive, 1937.* Washington. xxx + 668 pp.

A note on the annual Convention of the American Federation of Labor, 1937, appeared in *Industrial and Labour Information*, Vol. LXIV, No. 9, 29 November 1937, pages 318-329.

**Arbejdernes Oplysningsforbund.** *Danmarks Erhvervsliv. Udvikling og aktuelle Problemer.* En Materialesamling til Brug i. Oplysnings arbejdet. Copenhagen, 1936. 293 pp.

Study of the economic life of Denmark published by the Danish Workers' Educational Association.

**Bayr, G.** *Das Problem der Arbeitslosigkeit und seine Lösung.* Vienna, Österreichisches Jugendhilfswerk, " Pro Juventute ", 1937. 39 pp.

The author attributes unemployment to the excessive taxes imposed on the national economy, which reduce the purchasing power of the masses and prevent the development of consumption.

**Berenstein, Alexandre.** *La théorie des sujets du droit international et les organisations professionnelles.* Reprinted from the *Revue internationale de la théorie du droit.* Official organ of the Institut international de philosophie du droit et de sociologie juridiques. 1937. No. 2. Pp. 125-136. Brünn, Rudolf M. Rohrer.

—— *Le mécanisme des sanctions dans l'Organisation internationale du Travail.* Reprinted from the *Revue générale de droit international public*, juillet-août 1937. Pp. 446-464. Paris, A. Pedone, 1937.

Mr. Berenstein's study throws an interesting light on the problem of the mechanism of sanctions in the International Labour Organisation. The theoretical importance of this problem is considerable, and its practical importance tends to develop, as the author shows by citing some recent events.

**Bernhard, Hans.** *Innenkolonisationsprobleme der Krisenzeit in Appenzell I.-Rh.* Sonderabdruck aus " Forschungen auf dem Gebiete der Wirtschaftswissenschaften des Landbaus " (Festschrift E. Laur). Zurich, Schweizerische Vereinigung für Innenkolonisation und industrielle Landwirtschaft, 1937. 25 pp., illustr.

**Brouckère, L. de.** *La coopération et l'Etat dans l'organisation des services publics.* D'après notes rédigées par Willy Serwy. Brussels, Les Propagateurs de la coopération, 1937. 144 pp. 12 frs.

This timely work aims at determining the points of contact and the points at which connection or collaboration is possible between what the author, referring to Dr. Fauquet's well-known book, *Le secteur coopératif*, calls the " co-operative sector " and the " public sector ". The first chapter, which contains general considerations, defines the notion of " sectors " in national economy, public services, monopoly, State monopolies, and financial autonomy of public services. The second chapter examines the organisation of a number of public services : transport, gas and electricity supply, and at greater length the organisation of social insurance ; it attempts to show how certain formulae of collective economy, if established on the basis of complete data, can conciliate the notion of obligation and that of liberty.

**Butler, Nicholas Murray.** *The Background of the Labour Problem.* An Address at the Parrish Art Museum, Southampton, Long Island, 5 September 1937. New York. 18 pp.

**Cameron, Sir Donald.** *Native Administration in Nigeria and Tanganyika.* Extra Supplement to the *Journal of the Royal African Society*, 30 November 1937, Vol. XXXVI. 29 pp.

A general account of the principles of Native Administration written by the ex-Governor of Tanganyika and Nigeria, who, after Lord Lugard, has been the most active exponent of indirect rule.

**Colombain, M.** *Les coopératives indigènes au Maroc.* Extrait du Rapport présenté à la suite de sa mission au Maroc par M. COLOMBAIN, chef de la section coopérative du Bureau international du Travail. Reprinted from the *Bulletin économique du Maroc*, Vol. IV, No. 17 (July 1937). 19 pp.

**Committee for Industrial Organization.** *The C.I.O., What it is and How it came to be. A Brief History of the Committee for Industrial Organization.* Publication No. 12. Washington, 1937. 46 pp., illustr.

**Confederazione fascista degli industriali. Comitato per la piccola industria.** *Come prevenire gli infortuni.* Con la collaborazione dell'Ente nazionale di propaganda per la prevenzione degli infortuni. Norme generali per la piccola industria. Milan. 59 pp. 1.50 lire.

**Cowles Commission for Research in Economics.** *Report of Third Annual Research Conference on Economics and Statistics, 28 June-23 July 1937.* Colorado Springs. 108 pp.

**Duggan, Raymond P.** *A Federal Resettlement Project. Granger Homesteads.* A dissertation submitted to the Faculty of the School of Social Work of the Catholic University of America in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Social Science. Washington, Catholic University of America, 1937. VI + 183 pp.

**General Federation of Trade Unions.** *Thirty-eighth Annual Report. 1937.* London. 39 pp.

**Gewerkschaft der Angestellten des Handels.** *Das Wirken des Kaufmannes. Unentbehrlich seit Jahrtausenden.* Vienna, 1937. 47 pp., illustr.

This pamphlet gives a general survey of the economic situation in Austria (foreign trade and home trade). It also contains information on the protection afforded commercial employees, particularly as regards wages, hours, and holidays with pay. Interesting data are also given on the movement for collective agreements and the efforts made by the salaried employees' unions to promote vocational training and in connection with the utilisation of spare time.

**Gewerkschaft der Angestellten des Handels, Jugend- und Bildungsabteilung.** *Die Ergebnisse des 3. Berufswettkampfes der österreichischen Kaufmannsjugend. Mit Vorschlägen für eine Verbesserung der Lehrlingsausbildung im Handel.* Vienna, 1937. 32 pp.

Contains the results of a competitive examination organised in 1937 for apprentices and young commercial employees by the Austrian Union of Commercial Employees. Proposals are made for the improvement of commercial apprenticeship, through a better selection of apprentices, the observation of various rules relating to apprenticeship, and the institution of a final examination of apprentices.

**Gewerkschaftsbund der österreichischen Arbeiter und Angestellten.** *Bericht 1936.* Vienna, 1937. 239 pp.

**Gloerfelt-Tarp, Kirsten, and others.** *Kvinden i Samfundet.* Copenhagen, Martins, 1937. 380 pp.

General study of the different aspects of women's position in the economic life of Denmark: conditions of women in modern times, women's legal and social status, their social and political position, women's organisations, population problems, vocational education of women, women's work in the different branches of economic activity (housework, agriculture, industry, commerce, liberal professions, nursing, midwifery, teaching, etc., work of married women), and women's wages and salaries compared with those of men.

**Holmström, Nils.** *Förenings- och Förhandlingsrätt. Kommenterande redogörelse för lagstiftningen rörande förenings- och förhandlingsrätten a arbetsmarknaden.* Stockholm, Andren och Holms, 1936. 138 pp.

**Hull, J. T.** *Education for Co-operation.* Midland Pamphlet No. 7. Minneapolis, Midland Co-operative Wholesale. 14 pp. 5 cents.

*Industrial versus Craft Unionism.* Compiled by Julia E. JOHNSEN. The Reference Shelf, Vol. 11, No. 3. New York, H. W. Wilson, 1937. 320 pp.

A feature of this book, which is concerned with present day trade unionism in the United States and the conflict between the American Federation of Labor and the Committee for Industrial Organisation, is a compilation of excerpts from statements by prominent trade union leaders and writers on the question of industrial *versus* craft unionism. A bibliography serves as a guide to the contributions made by American social writers to the problems of labour organisation in the United States, and a brief analysis is given of the membership of the Committee for Industrial Organisation followed by a description of the aims of that Committee.

**Jagusz, Stanislas.** *Les questions agraires en Pologne.* Préface by Jean LESCURE. Paris, Librairie technique et économique. 230 pp.

*Jahrbuch des Reichsarbeitsdienstes 1937-38.* Herausgegeben von Oberarbeitsführer MÜLLER. Berlin, Volk und Reich Verlag, 1937. 115 pp., illustr.

This year-book of the German Labour Service gives a detailed picture of the constitution and activities of this organisation. It contains contributions from several leading officials of the Labour Service, each dealing with a particular aspect of the work achieved.

**Jeangros-Daetwyler, E.** *Meisterlehre und Gewerbeschule.* Berne, Verlag der Deutschschweizerischen Lehrlingsämterkonferenz, 1937. 23 pp.

**Kamii, Y.** *Problems of Labour Legislation in Japan.* Reprinted from the *Asiatic Review*, April 1936. London. 10 pp.

**Kraus, Dr. Hans, and Neubauer, Dr. Vinzenz.** *Die Berufsberatung und Lehrstellenvermittlung in Oesterreich.* Erschienen im Verlag der Zeitschrift : Lehrlings-, Jugend- und Berufsfürsorge. Vienna. 88 pp.

This pamphlet, which is written by two high officials of the Vienna Labour Office, gives detailed information on the aim, organisation, and methods, of vocational guidance and placing of apprentices in Austria. The authors' object is to popularise the idea of systematic vocational guidance and to provide a practical handbook for persons dealing with these questions.

**Kruse, Dr. Alfred.** *Technischer Fortschritt und Arbeitslosigkeit.* Neue Reihe Staatswissenschaftlicher Arbeiten. 3. Heft. Munich, Leipzig, Duncker und Humblot, 1936. 82 pp.

The author examines the effects of technical progress on economic phenomena and particularly on unemployment. He reaches the conclusion that technical progress often brings about lasting unemployment, in spite of the new jobs it may create. Technological unemployment, he says, can be combated by various methods, i.e. slowing down of technical progress, adaptation of wages to economic requirements, and especially the creation of capital.

**La Bella, S. de.** *Ordening. Van theorie naar practijk.* Amsterdam, Nederlands Verbond van Vakverenigingen, 1937. 174 pp.

**Lauener, Dr. Paul.** *Körper und Geist der schulentlassenen Jugend.* Berne, Verlag der deutschschweizerischen Lehrlingsämterkonferenz, 1937. 31 pp.

Short survey of the various dangers that threaten young people leaving school to enter industry. The author emphasises the necessity for parents and employers to consider these problems in an understanding and broadminded way.

*Limits of Land Settlement. A Preliminary Report on Present-day Possibilities.* By Ten Authors. A Report to the Tenth International Studies Conference, Paris, 28 June-3 July 1937. Submitted by the American Co-ordinating Committee for International Studies. United States Memorandum No. 2. 340 pp., maps.

Ten specialists on migration and settlement questions present in this volume

their views of settlement possibilities and population capacity in the principal under-developed areas of the world. A review of the several chapters leads the editor to the conclusion that, as the best lands are already occupied and restrictive measures are in force, the necessarily slow and small stream of migration offers no adequate relief for the economic and social strain caused by " over-population ". He adds that experience has shown that vacancy of land is not the criterion of settlement possibilities, but that these depend on the available resources and transport facilities ; policies, he points out, grow chiefly out of political, social and economic conditions and situations, and once a policy has been determined upon its form will be guided largely by such data as are presented in studies similar to those contained in this volume.

**Magnus, Georg, and Martius, Friedrich.** *Vademecum der Sozialversicherung. Reichsunfallversicherung.* Leipzig, Johann Barth, 1936. 137 pp.

**Mandiola, Hector E.** *El seguro contra el paro forzoso.* Universidad de Chile. Cuadernos jurídicos y sociales XIII. 103 pp.

The aim of this study is twofold : to give a survey of the different methods of unemployment insurance in operation in several countries, and to show the ever-growing importance of the problem in the social life of to-day. The studies on the subject published by the International Labour Office and the Draft Convention adopted by the International Labour Conference in 1934 are analysed at length.

**Pelc, Dr. Hynek.** *Sociální Lékerství.* Řada Spisu Lékařských. Svazek 7. Prague, Vydal Melantrich, 1937. 417 pp., illustr., tables, diagrams.

Professor Pelc, who occupies the chair of social medicine in the Charles University of Prague, has written a systematic treatise on medico-social methods and their practical application. The work gives a comprehensive review of social medicine considered as a science, and an account of the methods and means employed in social medicine. The matter is presented in a manner which enables the reader to become familiar with the fundamental notions of social medicine and to study its elements and practical aspects. An introductory chapter is devoted to the definition of social medicine and its methods of investigation. The author then examines the criteria and aims of health statistics, methods of health education, and the organisation of public health services. The requisite personnel and equipment are considered in a special chapter. A large place is given to schemes and medico-social services for the prevention of ill-health due in part to social and economic conditions : improvement of nutrition and housing ; assistance to mothers and infants ; assistance to the infirm ; campaigns against tuberculosis, venereal diseases, and alcoholism ; etc. Social insurance, in the author's opinion, is the most comprehensive and efficacious method employed in social medicine. A close analysis of the different insurance systems and their medico-social activities provides a survey of all the problems connected with the curative and preventive work of sickness and invalidity insurance. Of special interest are the paragraphs devoted to the problem of the organisation of the medical service in sickness insurance and to the principles of economy and efficiency which form the basis of the curative and preventive activities of social insurance. The work, which is primarily designed for instruction in universities, is also, thanks to the analytical method adopted, an excellent book of reference on all branches of social medicine.

**Revisionsverbandes ukrainischer Genossenschaften.** *Das ukrainische Genossenschaftswesen in Polen. Bericht des Revisionsverbandes ukrainischer Genossenschaften zum 15. internationalen Genossenschaftskongress in Paris, 6.-9. September 1937.* Lwow. 23 pp., illustr.

**Salvadori, Max.** *La colonisation européenne au Kenya.* Paris, Larose, 1938. 227 pp.

A detailed criticism of white settlement in Kenya. The author concludes that settlement has been economically advantageous to the Government of Kenya, but has led to racial tension, that a number of colonists have suffered considerable financial losses, that colonisation has hindered Native development, and that so far as Great Britain is concerned the development of Kenya has led to advantages

and disadvantages which are difficult to estimate but which do not seem considerable. A short examination of the question of the Native labour supply suggests that increased white settlement would lead to labour difficulties and increased production costs.

**Sanderson, Dwight.** *Research Memorandum on Rural Life in the Depression.* Prepared under the direction of the Committee of Studies in Social Aspects of the Depression. Social Science Research Council. Bulletin 34, 1937. New York. VII + 169 pp.

**Staal, A.** *De Internationale Arbeidsorganisatie en de Vakbeweging.* Amsterdam, Nederlandsch Verbond van Vakvereenigingen, 1937. 36 pp.

**Strickland, C. F.** *Rural Welfare in India 1936.* Indian Village Welfare Association. London, Bombay, Humphrey Milford, Oxford University Press, 1936. 54 pp.

**Svenska Arbetsgivareföreningen.** *Styrelse- och revisionsberättelser för år 1936.* Stockholm, 1937. 47 pp.

**Swanish, Peter T.** *Trade Disputes Disqualification Clause under the British Unemployment Insurance Acts.* Studies in Business Administration. The School of Business. University of Chicago. Chicago, University of Chicago Press, 1937. IX + 73 pp. $1.

**Trades and Labor Congress of Canada.** *Report of the Proceedings of the Fifty-third Annual Convention, held at Ottawa, Ontario, 13-18 September (inclusive) 1937.* 216 pp.

*Unemployment in 1937.* Reprint from *Fortune*, October 1937. 16 pp., illustr.

Study of the relief problem in eleven representative communities in the United State. An effort was made to combine several fairly typical towns with three or four localities that represent extremes of either " booms " or depression. The conditions of one hundred or more families in each community were studied to illustrate the various types, causes and results of unemployment and poverty.

**Università cattolica del Sacro Cuore.** *Cicli economici. Contributi dell' Istituto di scienze economiche.* Serie seconda. Milan, " Vita e Pensiero ", 1937. 238 pp. 20 lire.

**Vaile, Roland S.** (with the assistance of Helen G. CANOYER). *Research Memorandum on Social Aspects of Consumption in the Depression.* Prepared under the direction of the Committee on Studies in Social Aspects of the Depression. Bulletin 35, 1937. New York, Social Science Research Council. VII + 86 pp.

**Wistrand, Karl.** *Uppsving och arbetslöshetspolitikk.* Stockholm, Hökenberg, 1936. 76 pp.

This analysis and criticism of Swedish (social-democratic) unemployment policy during the economic depression, and its results, draws its special interest from the fact that its author is a prominent member of the Conservative Parliamentary Group and has been for several years the representative of the Swedish employers at the International Labour Conference. The book concludes with suggestions regarding Sweden's future unemployment policy, based, to a certain extent, on the conceptions presented in the report issued in 1935 by the Committee appointed in 1927 by the Swedish (Conservative) Government to enquire into the nature and causes of unemployment, its volume and the measures for combating it (cf. *International Labour Review*, Vol. XXXII, No. 1, July 1935, Page 99).

**Wistrand, Lodo.** *Kollektivavtalslagen och arbetsdomstolen. En populär kurs i svensk arbetsrätt.* Stockholm, Tidens förlag, 1936. XII + 211 pp.

This book on the Swedish Collective Agreements Act and the Labour Court, by the Registrar of that Court, which was set up in 1928 to settle disputes arising out of the interpretation of collective agreements, is described by its author as a popular course in Swedish labour law. Its aim is to make clear to employers and

workers the obligations which the Act imposes on the parties to a collective agreement, and the procedure in the Labour Court. The book is written in the form of a dialogue between the Registrar of the Court and one of his friends, who is supposed to be completely uninformed on the subject; the author has succeeded in giving a vivid and clear presentation of this important question.

**Woestijne, W. J. v. de.** *De theorie van hat stabiele wereldprijsniveau.* Overdruk *Economist*, 1937. Aflevering 10. Pp. 695-717.

**Yule, G. Udny, and Kendall, M. G.** *An Introduction to the Theory of Statistics.* Eleventh edition, revised throughout and re-set. London, Charles Griffin, 1937. XIII + 570 pp.

This work in the former editions, compiled by Mr. Yule, has long been recognised as a standard work on the theory of statistics. First published in 1910, it has now reached its eleventh edition, considerably expanded and revised by Mr. Kendall. The new improvements make it an indispensable textbook for all students and particularly for those called upon to interpret the results of statistical enquiries or experiments. In addition to the excellent chapters on classification of data, frequency-distributions, average measures of dispersion, correlation, interpolation, and curve fitting, etc.—subjects which are discussed in all textbooks on statistics—it contains new and expanded chapters by Mr. Kendall on sampling, which make it of special value. In view of the importance of this subject in all interpretation of statistical data, it is to be regretted that not enough attention has been devoted to it in many statistical textbooks. In few branches of statistics are more pitfalls to be avoided by the ordinary user of statistics than in this one. One of the fundamental problems of statistics is how far results obtained from a partial investigation can be said to be valid. Would the same results have been obtained if a different field of investigation had been selected, and how far can differences obtained be attributed to chance and how far to the existence of significant differences? The theory of sampling sets out to answer such questions as these. In practical work, it is nearly always necessary to use a "sample" instead of the whole. In statistics of wages, or of family budgets, it is impossible to obtain information regarding every individual or every family, even in the limited area or industry to which the enquiry is confined. Hence a selection is necessary: this may be either a "random" selection or a selection made for some particular purpose, or a combination of the two methods, or even no method at all may be used, and the interpretation and the precision of the results depend both on the size of the sample and on the extent to which the sample was really a random one. It is the great merit of Messrs. Yule and Kendall's book that these questions are fully discussed in terms not involving higher mathematics. Many of the examples are taken from biological and demographic statistics, and it would have been useful if more illustrations had been taken from the field of social statistics. The investigator in this field is often more of an amateur in statistics than the investigator in the other fields, and his tendency to select what is available rather than what is representative as his field of investigation leads frequently to false conclusions being drawn. No social investigator should attempt to draw general conclusions from his limited enquiries without having mastered the principles so admirably exposed in this volume.

The method of presentation, the separate numbering of paragraphs, of formulae, and of examples, and the complete index, considerably facilitate the use of this book, which in its latest edition is more than ever indispensable to all who interpret, comment on, or draw conclusions from, statistical data.

*Zvez slovenskih zadrug. Zadruzni Zbornik. Izdan ob stoletnici rejstva. Mihe Vosnjaka oceta slov. zadruznistva.* Ljubljana, 1937. 126 pp., illustr.

Volume published on the occasion of the centenary of Mihe Vošnjaka, pioneer of the Slovene co-operative movement.

PRINTED BY SONOR S. A. — GENEVA